

Db	2	SYELGRHOAGOVKKESNRVSYIDGDOAGOKA--ENLPRDEVSKREGINAEOXYIKITDQG	59
QY	81	YVTSHGDIHYHNGKVPYDAIISELLMTDPNRYRKQSDVINEILDDGYIVKNGNYVYL	140
Db	60	YVTSHGDIHYHNGKVPYDAIISELLMTDPNRYRKQSDVINEILDDGYIVKNGNYVYL	119
QY	141	KPGSKRNIRTKQOIAEQVAKGTKEAKEKGLAOVYANLSKEEVAAVNEAKRQGRYTTDDGY	200
Db	120	KDAAHADNIRTKKEIKRQ----KQERSHN-----HNSRAD-NAVAAARAQGRYTTDDGY	168
QY	201	IFSPTDIDDDGDAYLVRPHGNHYHYIPKKDLSPELAAQAQYWSQOGRGARPSDYRPTP	260
Db	169	IFNASDIEDTGDAYIVPHGDIHYHYIPKNELASSELAAEAAYWNGKO--GSRPSSSSSYN	226
QY	261	APAPGRKAPIPDVTPNPGCHQRPDNGGYHAPRPPNDASQNKHORDEFKGTFFKELLDQ	320
Db	227	A-----NPAQPRLSENHLTYTP-----TYHON--QGENISLEIRE	260
QY	321	LHRLDLKYRHEEDGLFEPTQVIKSNAGFYVVRPHGDHYIIPRSQLSPELMELAD----	376
Db	261	LYAKPLSERHVESDGLIFDPAQITSRTAGVAVPHGNHYHYIPEQMSELEKRIARIPL	320
QY	377	RYLAQOTEDDDSGSDHKSPSDKEVTHTEFLGRIRKAYGKGLDGKPYDTSDAYVFSKESIHS	436
Db	321	RYRSNHWVPD---SRPEQSPQSTPEPSPQPARPNQPARPSNPIDEK---LVKEAVRK	373
QY	437	VDSKGVTAHGHDFHYITGFELEQYELDEVANWVKAKAGQADELAAALDQEQKREKPLFD	496
Db	374	V-----GDGY-----VFENGVSRYIPAKDLASETAAGIDSKLAKQESL--S	413
QY	497	KVSRKVTKDGKVGVMPPKDGKDYFYARQDLDTQIAFAEQELMLKDKKHRYRDIIVDTGI	556
Db	414	HKLGAKKTD-----LPSSDREFY--NKAYDL--LARINQDLDNKGROVPEALDNL	462
QY	557	EPRLAVDVSSLPMHAGNATYDTGSSFEVIRPHIDHINVRYSMLTRDQIATIKYVMQHPEVR	616
Db	463	E-RLK-DVXS-----DKVKLV-----XDIILAFIAPIRHPE--	490
QY	617	PDIWSKPGHESSGSVIPNVTPLDKRACGMPNWOIHSAEVQKALAEGRATPDGYIFDPR	676
Db	491	-----RLGKPRNAQITTYIDDEIQVAKLAGKYTTEDGYIFDPR	526
QY	677	DVLAKETEVWKDGSFISIPRADGSSLRTINKSDLQAEMQQAQOELLAKKNAGDATDTPDKPK	736
Db	527	DITSDE-----GDAYVTPPHMTHS--HWIKKDSLSEAFRAAAQAYAKEKGL-----TPP	572
QY	737	EKOQADKSNENQOQSEASKSEKESDDE-IDSLP-----	769
Db	573	STDHODSGNTEAKGAEAITYNRVKAACKVPLDRMPNQLQYTVVEVKNGSLIIRHYDHYNIK	632
QY	770	----DYGLDRA----TLIEDHINOLAOKANIDPKYLIQFQ-----EGVQFYN	807
Db	633	FEMFDEGLYEAPKGYTLEDLILATV-----KYYVEHPNERPHSDNGFGNASDHYQ--RN	683
QY	808	KNGELVT 814	
Db	684	KNGQADT 690	

RESULT 2
US-08-961-083-56
; Sequence 56, Application US/08961083
; Patent No. 6159469

GENERAL INFORMATION:
APPLICANT: Choi et. al.
TITLE OF INVENTION: Streptococcus pneumoniae Antigens and Vaccines
NUMBER OF SEQUENCES: 452
CORRESPONDENCE ADDRESS:
ADDRESSEE: Human Genome Sciences, Inc.
STREET: 9410 Key West Avenue
CITY: Rockville
STATE: Maryland
COUNTRY: USA

```

: ZIP: 20850
:
: COMPUTER READABLE FORM:
:
: MEDIUM TYPE: Diskette, 3.50 inch, 1.4mb storage
:
: COMPUTER: HP Vectra 486/33
:
: OPERATING SYSTEM: MSDOS version 6.2
:
: SOFTWARE: ASCII Text
:
: CURRENT APPLICATION DATA:
:
: APPLICATION NUMBER: US/08/961,083
:
: FILING DATE:
:
: CLASSIFICATION: 435
:
: PRIOR APPLICATION DATA:
:
: APPLICATION NUMBER:
:
: FILING DATE:
:
: ATTORNEY/AGENT INFORMATION:
:
: NAME: Brookes, A. Anders
:
: REGISTRATION NUMBER: 36,373
:
: REFERENCE/DOCKET NUMBER: PB340P2
:
: TELECOMMUNICATION INFORMATION:
:
: TELEPHONE: (301) 309-8504
:
: TELEFAX: (301) 309-8512
:
: INFORMATION FOR SEQ ID NO: 56:
:
: SEQUENCE CHARACTERISTICS:
:
: LENGTH: 796 amino acids
:
: TYPE: amino acid
:
: STRANDEDNESS: single
:
: TOPOLOGY: linear
:
: MOLECULE TYPE: protein
:
US-08-961-083-56

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Query Match	21.7%;	Score 949;	DB 4;	Length 796;
Best Local Similarity	29.5%;	Pred. No. 5.1e-69;		
Matches 277;	Conservative 100;	Mismatches 214;	Indels 348;	Gaps 34;

QY	22	SYLGKHHMGSATKDNQIAVYIDDSKGAKAKAPT--NKTMDQISAEEGISAEQIVKITTDOG	80
Db	1	SYELGLYQARTVKENNRVSYID--GKQATQKTENLTPDEVSKREGINAEOIVIKITTDG	57
QY	81	YVTSHGHDYHFYNGKVPYDAIISELLMTDPNRYEKQSDVINEILDGVIKVNNGNYVYL	140
Db	58	YVTSHGHDYHYNGKVPYDAIISELLMKDPMYKLKDEDIVNEVKGGVYTKVDGKYYVYL	117
QY	141	KPGSKRKNIIRTQOIAEOVAKGTKEAKEKGLAOVAHLSKEEVAAYNEAKRQGRYTTDDGY	200
Db	118	KDAHADNVRTKEEINROKQEHSHQ--REGG-----TPRNDGAVALARQGRYTTDDGY	169
QY	201	IESPTDIDDLGDAYLVPHGNHYIIPKDLSPSELAQAAYWQKQKGRG--ARPSDYRP	258
Db	170	IFNASDIIEDTGDAYIVPHGDHYHIIPKNELSASELAQAAEAPLS--GRGNLSNRYRR	226
QY	259	TPAPAPGRRKARIPDVTNPNGQGHQRPDNGCYHAPRPRNDASQNKHQRDEFGKGTPEKLL	318
Db	227	QNSDNTSRTNM--VPSVS--NPGTTNTNTSN-----NSNTNQASQSDND-----IDSL	271
QY	319	DQHLRLDKYRHYVEEDGLIFEPTQVIKSNAFGYVVPHGHDHIIIPRSQLSPLEMLAD--	376
Db	272	KQYKLPLSQRHYESDGLVDPAQITSRITARGVAVPHGDHYHFIPIYSQMSLEBERIARI	331
QY	377	--RYLAGQTEDD-----DSGSD-----	391
Db	332	PLRYRSNMHWVPDSRPEQSPQPTPEPSPGPQAPAPNLKIDSNSLSVQLVKRYGEGYVEE	391
QY	392	-----HSKPSDKE--VTHTFLGHR-----IKAY-----	412
Db	392	KGISRYVEAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLLTEAH	451
QY	413	-----GKGID-----GKP-----	420
Db	452	KALFXNKGKNSDFQALDKLIERLNDESTNKEKLVDDLFLAPITHTPERLGKPNQOIEYT	511
QY	421	-----YDTSDAYVFSKESIHSVDKSGVYAKHGDFHYIGFGELEQYELDEVAN	468
Db	512	EDEVRIAQADAKYTTSDGYIFDEHDIISDEGDAYIVPHMGHSHWIGKDISDDEKVVAAQA	571

LENGTH: 1861 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-790-912-4

Query Match 3.3%; Score 143.5; DB 2; Length 1861;
Best Local Similarity 18.3%; Pred. No. 0.011;
Matches 190; Conservative 166; Mismatches 328; Indels 353; Gaps 56;

QY 36 DNQIAYIDDSKGRKAPK---TNKTMD-QISAE-GISAEQIVVKITDQGYVTSBGDHY 89
DB 199 DNK---IPDNQANAVDKALNQNKKLDYSVSFDKNGLKNQTVGNVTE----- 244
QY 90 HFYNGKVPYDAIISBELMTDPNRYFKQSDVINEILDGYVIVKN-----GNYYVYL--KP 142
DB 245 -----PQDEVLSGR--VAKPELLYKETSIETETIAYGEQIQENPDLAEGTVRVKQEGKP 295
QY 143 GSKRKNIR-----TKQIAEQVAKGTKEAKEKGL-----AQVA 175
DB 296 GRKIEVVRIFTVDNAEVSREVLSTKIEEATPKIVEKGTKKLEAPSEKPVTSNLVQPEQVA 355
QY 176 HLSK-----EEVAAVNEAKRQGRY-TDDGYIFSPDTIIDLG---DAYLVP 218
DB 356 PLPEYTGVSQGAIVEPEQVASLPE-----YSGTLSGAIVEPEQIEPEIGVQSGAIVER 409
QY 219 HGNHYHYIPKRD-----LSPSELAQAQVWSQKQGRGARPSDYRPTP-----A 261
DB 410 E---QVTPLEPYTGQAGAVVSPEQVAPLPEYTGQSGAIVEPAQVTPLEPYTGVSQGA 465
QY 262 PAPGRRKAPIPD-----VTPNP-----GQ 280
DB 466 IVKPAQVTPLEPYTGQSGAIVEPEQVTPSPREYTGQVQAGAVEPEQVASLPEYTGQAGA 525
QY 281 GHQPD-----NGYHAPRPRPND---ASQNKHQDE-FKGKTFKELL-DQLHRL-D 325
DB 526 IVEPEQVERPQEYTGNIETPAEAEENPTEKQEPKEQKQEPKEKIELRVNSDVELYSLAD 585
QY 326 LKYR-HVEEDGL-----IFEP-TQVKSNAFGYVVPBGDHYHIIPRS 365
DB 586 GKYYKHVSLDAIPSNQENYFVKVSSKFDVFLPISIVDSTKDGQPV---YKITASA 640
QY 366 QLSPLEMELADRYLAGQTEDDDSGSDHSPSKDEYTH-TFLGHRIRKAYGKGLDGKPYDTS 424
DB 641 E--KLKQDVNNKY-----EDNFTFYLAKKAEKREYTNFTSFSNLVQAINNNLNGTYLLAA 692
QY 425 DAYVESKESIHVSQVYAKHGDFHYIGFGELEQYELDEVANWVKAK-----GQADE 478
DB 693 -----SLNANEVELENG-----ASSYIKGRFTGKLFSGSKDG 723
QY 479 LAAALDOEGKEKPLEFTKKVS-----RKVTKDGK--VGYMMPKDGKDYFYARDQLDL 529
DB 724 KNYAI--YNLKKPLPDLTSAATVENLTLDKDVNISGKTDIGAL-----ANEANNA 770
QY 530 TQIAFAEQELMLKDKK-----HYRYDIVD-----TG 555
DB 771 TRINNVMHVDGLAGERIGGLVWKADNSKISNSSPKGRIVNSYETKAPYINIGLVQQLTG 830
QY 556 I-----EPRLAVDVSSLEPMHAGNATYDTG-----SSFVIPHIDHIH----- 591
DB 831 INALVDKSKATITISS---NADSTNQTVGGLAGLYEKDALLISNSYAEGNINNVKRFSGVA 887
QY 592 -VVPYSWLTROQIATIKYVMQHPVPRDWSKPGHESSGSVIPNVTPLDKRAGMPN--WQ 648
DB 888 GYAGCYLM-DRDS--SEERHAGRLHNVLSDINVMNGNAISGYHYRGMRTDTSYSKKNRVYK 945
QY 649 I-IHSAEEVQKALAEGRFATPDGYIFDPRDVLAKETFWWKDGSFSTPRADGSSIRTINKS 707
DB 946 VTLEKDEVVTKESLEER-----GTILDVSQIASKSEL---NSLSAPKVEITLSTINKES 997
QY 708 DLSQAEWQAOELLAKKNA-----GDATDTDK---PKEKQADKSNENQ 749

DB 998 DESKVKDYQASRALAYKNIKLLPFYNKATIVYGNLVKEDSTLYEKEILISAVMMKDNV 1057
QY 750 PSEASKEEKESDDFIDSLPDYGLDR--ATLEDHINQLAQKANIDPKYLIQPEGVQFYN 807
DB 1058 ITDIASHKE-AANKLLIHYKDHSSSEKLDITYQSDFSKLAE-YRVGDTGLITYTPN--QFLQ 1113
QY 808 KNGELVTYDIKTLOQIN 824
DB 1114 NHSSIVNEVLPDLKAVD 1130

RESULT 5
PCT-US93-07261-11
; Sequence 11, Application PC/TUS9307261
; GENERAL INFORMATION:
; TITLE OF INVENTION: PEEMP3 MALARIA ANTIGEN, ANALOGS, ANTIBODIES AND USES THEREO
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. C. Blasdale
; STREET: One Giralda Farms
; CITY: Madison
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07940-1000
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: Apple Macintosh
; OPERATING SYSTEM: Macintosh 6.0.5
; SOFTWARE: Microsoft Word 5.1a
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US93/07261
; FILING DATE: 19930805
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/927,531
; FILING DATE: 07-AUG-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Blasdale, John H. C.
; REGISTRATION NUMBER: 31,895
; REFERENCE/DOCKET NUMBER: DX0288K
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 201-822-7398
; TELEFAX: 201-822-7039
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1588 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; PCT-US93-07261-11

Query Match 3.3%; Score 142.5; DB 5; Length 1588;
Best Local Similarity 20.0%; Pred. No. 0.01;
Matches 174; Conservative 120; Mismatches 341; Indels 233; Gaps 38;

QY 27 KHHMSATKDNQIAYIDDSKGRKAPKTN-----KTMQISAEISAEQIVVKITDQGY 81
DB 4 KEALKQKTEKNEKARNALKEKKLEKQKKNDAQAKADLTJKESQDSSSEKSLKEKYNGEAL 63
QY 82 VTSBGDHYHFYNGKVPYDAIISBELMTDPNRYFKQSDVINEILDG--YIVKNGN----- 135
DB 64 KEKE-----NKEVLKKKELENQKEKEKKIKKDNNDKALKNKNDKDD 106
QY 136 -YVVYLLKPGSKRNIR---TKQIAEQVAKGTKEAKEK-----GLAQVA 175
DB 107 KKIYVKKPESVEKDLKEMELKEKFIKQHLKDYEEKERRRNWILRLRDKLREIQLE 166
QY 176 HLSKEEVAAVNEAK-----RQGRYTTDDGYTFSPDT-----IIDDL 211
DB 167 KLNQLESALINELKERASRPMMYKMGKMGKDEVDENWTKKYDDEQAEEKNGTKDEEIKDK 226
QY 212 GDAY--LVP---HGNHYHYIPKRDLSPESELAQAQVWSQKQGRGARPSDYRPTPAPAPGR 266


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Db 227 GDGYEEIVETKFGYGMRENALGELD-EYEEERYEKKRYLLKEDGEG-----DLK----- 272
QY 267 RKAPIDVTPNPGOGHOPDNGGYHPAPRPNDASQNHQORDEFKGTFFKELLDLQHLRLD 326
Db 273 ---DVEEKLTEGTGFGREKFPTRILVYKRRNKEQKKLKEDKEKLLIAAEPDDEKKIKL 329
QY 327 KYRHYEEDGLIFEPTQVIXSN-AFGYVVPBGHDHYHIIPRSQSLP-----EMELADRYLAG 381
Db 330 K---DSDDKVYVVPVNNKSSFPDKFRAPDKKRTMYRLSELFPYVPRKDNELA---VCG 382
QY 382 QTEDDSGSDHSPDKSEVTHTF-----LGHRIKAYGKGL----- 416
Db 383 DSM-----SKVNGKKLKSTFNPFKRRRNKLIKERRKMQLHFKFNKYYKKYOKLLEREKR 435
QY 417 ---DGKPYDTSDAYVESKESISHSVDSKGVTAHGDHFIYIGFGELEQYELDEVANWVK-- 471
Db 436 ENPDGEPLNTPETIHYIRPSDL--MDK-GENKSAGHPFKYQPTKGLKEYEESHVSKDYOLE 492
QY 472 -----AKQADELAALDQEGKEKPLFDTKKVSRKVTGDKGVYMPKDKDYF 521
Db 493 HEPTKLPYEKGHYSR-EYQLDHEPTKLPYEKGHVSREYQLDNEVRDELPEYEGHV 551
QY 522 YARDQD---LTQIAFAEQELML-KDKKHRYDIVDTGIEPRLA--VDVSSLPMHAGNA 574
Db 552 SREYQLDNEGPSTLKEYDQTELAKGKDLTNKPHEVDEYDQTELAKGKDLTNKP-HESVD 610
QY 575 TYDTGSSFVIPHIDHIVVPYSWLTRDQIATIKYVMQHPVEVRPD-----IWSK 622
Db 611 EYD-----QSELAKGKDLTNKPHEVDEYDQTELAKGKEVTNK 648
QY 623 PGHEESGVIPTVPLDKRAGMPNMQIHSAAEVQKALAEGRFAT-----PDGYIFDPR 676
Db 649 P-HENLEEY--NETDLAKGKEVTNKPHESVDEYDQSELAKGKDLTNKPHEVDEY--DQ 702
QY 677 DVLAKETFWWKDGSFSIPRADGSSLRTINKSDLSQAEMQQAQELL--AKKNAGDATDTDK 734
Db 703 TELAK-----GKEVTNKARENLEEYNETDLA---KGKEVTNKARENLEEYNETDL 749
QY 735 PKEQQAQADKSNENQPSSEASKEEKESD 762
Db 750 AKGKEVTNKAHEN-----LEEYNETD 770

RESULT 6
PCT-US93-07261-16
; Sequence 16, Application PC/TUS9307261
; GENERAL INFORMATION:
; TITLE OF INVENTION: PFEMP3 MALARIA ANTIGEN, ANALOGS, ANTIBODIES AND USES THEREOF
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: John H. C. Blasdale
; STREET: One Giralda Farms
; CITY: Madison
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07940-1000
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: Apple Macintosh
; OPERATING SYSTEM: Macintosh 6.0.5
; SOFTWARE: Microsoft Word 5.1a
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US93/07261
; FILING DATE: 19930805
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/927,531
; FILING DATE: 07-AUG-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Blasdale, John H. C.
; REGISTRATION NUMBER: 31,895
; REFERENCE/DOCKET NUMBER: DX0288K
; TELECOMMUNICATION INFORMATION:
```

```
; TELEPHONE: 201-822-7398
; TELEFAX: 201-822-7039
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1663 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Plasmodium falciparum
; STRAIN: Malayan Camp
; PCT-US93-07261-16

Query Match 3.38; Score 142.5; DB 5; Length 1663;
Best Local Similarity 20.0%; Pred. No. 0.011;
Matches 174; Conservative 120; Mismatches 341; Indels 233; Gaps 38;

QY 27 KHHMSATKDNQIAYIDSKGAKAPKTN-----KTMQISAEEGISAEQIVYKITDQY 81
Db 4 KEALKOKTEKNEKARNALKEKKLKEQKKNDQAQAKDLTKKESQSSSEKSLKEKVNGBAL 63
QY 82 VYSHGDHYHYNGKVPYDAIISELLMTDPNYPKQSDVINEILDG--YVIAKNGN---- 135
Db 64 KEKE-----NKETLKKELENGKEKEKKNKIKDNNDEALKNGNDKDD 106
QY 136 -YVYLLKPGSKRRNIR---TKQIAEQVAKGTKEAKEK-----GLAQVA 175
Db 107 KKIYPKKPESEVEKDKEMELKEKEFIKQHLKDYERKEKRRNWILRSRLRDKLREIEOLE 166
QY 176 HLSKEEVAAVNEAK-----RQGRYTTDDGYIFSPD-----IIDDL 211
Db 167 KLNQLESALINELKERASRRPMVMVKMQGMKDEVDWIKKYDDEQAEEKNGTKDEIKDK 226
QY 212 GDAY--LVP---HGNNHYIIPKDLSPSELAQAQYWSQKQGRGARPSDYRPTAPAPGR 266
Db 227 GDGYEEIVETKFGYGMRENALGELD-EYEEERYEKKRYLLKEDGEG---DLK----- 272
QY 267 RKAPIDVTPNPGOGHOPDNGGYHPAPRPNDASQNHQORDEFKGTFFKELLDLQHLRLD 326
Db 273 ---DVEEKLTEGTGFGREKFPTRILVYKRRNKEQKKLKEDKEKLLIAAEPDDEKKIKL 329
QY 327 KYRHYEEDGLIFEPTQVIXSN-AFGYVVPBGHDHYHIIPRSQSLP-----EMELADRYLAG 381
Db 330 K---DSDDKVYVVPVNNKSSFPDKFRAPDKKRTMYRLSELFPYVPRKDNELA---VCG 382
QY 382 QTEDDSGSDHSPDKSEVTHTF-----LGHRIKAYGKGL----- 416
Db 383 DSM-----SKVNGKKLKSTFNPFKRRRNKLIKERRKMQLHFKFNKYYKKYOKLLEREKR 435
QY 417 ---DGKPYDTSDAYVESKESISHSVDSKGVTAHGDHFIYIGFGELEQYELDEVANWVK-- 471
Db 436 ENPDGEPLNTPETIHYIRPSDL--MDK-GENKSAGHPFKYQPTKGLKEYEESHVSKDYOLE 492
QY 472 -----AKQADELAALDQEGKEKPLFDTKKVSRKVTGDKGVYMPKDKDYF 521
Db 493 HEPTKLPYEKGHYSR-EYQLDHEPTKLPYEKGHVSREYQLDNEVRDELPEYEGHV 551
QY 522 YARDQD---LTQIAFAEQELML-KDKKHRYDIVDTGIEPRLA--VDVSSLPMHAGNA 574
Db 552 SREYQLDNEGPSTLKEYDQTELAKGKDLTNKPHEVDEYDQTELAKGKDLTNKP-HESVD 610
QY 575 TYDTGSSFVIPHIDHIVVPYSWLTRDQIATIKYVMQHPVEVRPD-----IWSK 622
Db 611 EYD-----QSELAKGKDLTNKPHEVDEYDQTELAKGKEVTNK 648
QY 623 PGHEESGVIPTVPLDKRAGMPNMQIHSAAEVQKALAEGRFAT-----PDGYIFDPR 676
Db 649 P-HENLEEY--NETDLAKGKEVTNKPHESVDEYDQSELAKGKDLTNKPHEVDEY--DQ 702
QY 677 DVLAKETFWWKDGSFSIPRADGSSLRTINKSDLSQAEMQQAQELL--AKKNAGDATDTDK 734
Db 703 TELAK-----GKEVTNKARENLEEYNETDLA---KGKEVTNKARENLEEYNETDL 749
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QY 735 PKEKQADKSNENQPSSEASKEEKESD 762
| : : : : : | : : : : : |
Db 750 AKGKEVTNKAHEN-----LEFYNETD 770

RESULT 7

US-08-596-291-3
; Sequence 3, Application US/08596291
; Patent No. 5821075

; GENERAL INFORMATION:

; APPLICANT: GONZ, LEONEL JORGE
; APPLICANT: SARAS, JAN
; APPLICANT: CLAESSEN-WELSH, LENA
; APPLICANT: HELDIN, CARL-HENRIK
; TITLE OF INVENTION: PRIMARY STRUCTURE AND FUNCTIONAL
; TITLE OF INVENTION: EXPRESSION OF NUCLEOTIDE SEQUENCES FOR NOVEL PROTEIN
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: WOLF, GREENFIELD & SACKS, P.C.
; STREET: 600 ATLANTIC AVENUE
; CITY: BOSTON
; STATE: MASSACHUSETTS
; COUNTRY: USA
; ZIP: 02210

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/596,291
; FILING DATE: 09-AUG-1996
; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/115,573
; FILING DATE: 01-SEP-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: GATES, EDWARD R.
; REGISTRATION NUMBER: 31,616
; REFERENCE/DOCKET NUMBER: LC461/7000
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617/720-3500
; TELEFAX: 617/720-2441
; TELEX: 92-1742 EZEKIEL

; INFORMATION FOR SEQ ID NO: 3:

; SEQUENCE CHARACTERISTICS:
; LENGTH: 2465 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-596-291-3

Query Match 3.0%; Score 133; DB 2; Length 2465;
Best Local Similarity 19.9%; Pred. NO. 0.12;
Matches 176; Conservative 114; Mismatches 322; Indels 272; Gaps 44;

QY 9 GSYAAILLATHIGSYQLGKHHM--GSATKDNQIAYIDSKGAKAPKTNTMD-QISAE 64
| : : : : : | : : : : : | : : : : : | : : : : : |
Db 1422 GQVHLLLEK--GQSPSTKEHVPTPQCTLSQNA---QGQGEKVKKTTQVNDYSFVTE 1476
| : : : : : | : : : : : | : : : : : | : : : : : |
QY 65 EGISAEQIVVKITDQGYVTHSGDHYHFYNGKVPYDAIISELLMTDPNRYRKQSDVINEI 124
| : : : : : | : : : : : | : : : : : | : : : : : |
Db 1477 ENTFEVKLFKNSSGLGFSFRED--NLIPEQINASIVRYKKLFAGQPAESGKIDVDVI 1534
| : : : : : | : : : : : | : : : : : | : : : : : |
QY 125 LDGYVIKNGNYVYLKPGSKRNIRT-----KQO 154
| : : : : : | : : : : : | : : : : : | : : : : : |
Db 1535 L-----KVNG--ASLKGISQOEVISALRGTAPEVLLCRPPGVLPEIDTALLTPLQS 1586
| : : : : : | : : : : : | : : : : : | : : : : : |
QY 155 IAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAK-----ROGRYTT-----DDGYTFS 203
| : : : : : | : : : : : | : : : : : | : : : : : |

Db 1587 PAQVLPNSSKSDSSQPSCEQSTSSDENEMSDSKKQCKSPSRSDSYSSSGSGEDDLVTA 1646
QY 204 PTDIIDLGDAYL-----VPHGNHYHYPKDLSPSELAAQAYWSQKQGRGARS DY 256
| : : : : : | : : : : : | : : : : : | : : : : : |
Db 1647 PANISNSTSSSALHQTLSNMVSAQSHHEAPK---SQEDTICTMFYYPQKIPNKPFEEDS 1703
QY 257 RPTPAPAGRRKAPIDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHORDEFKKTKE 316
Db 1704 NPSPLP-----PDMA--PGQSTQPOS-----ESASSSSMDKYHIHIISEPTROE 1745
| : : : : : | : : : : : | : : : : : | : : : : : |
QY 317 LLDQLHRDLKRYHVEEDGLIFE-PTQVYKSN--AFGYVPHGDHYHIIPRSQSLPME 373
Db 1746 NWTPL-KNDLE-NHLEDFELEVELLITLIKSEKASLGFTYTKGN-----Q 1788
QY 374 LADRYLAGQTEDDSDSGSHSKPSDK-----EVTHTFLGHRIRIKAYKG---LDGK 419
Db 1789 RIGCYVHDVYQDPAKSDGRKPGDRLIKVNDTDTNMTHTDAVNLLRAASKTVRLVIGRV 1848
QY 420 PYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWKAKQADEL 479
Db 1849 PRITQNTNVASFATGH-----KLTCKNEEL 1873
QY 480 AAALDQEQEKPLEFDTKKVSRKYTKDGKVGVMMPKDKDYFYARDQLDTQIAFAEQEL 539
Db 1874 GFSL---CGGHDLSLYQVYIS-----DINPRSAVATIEGNL 1905
QY 540 MLKDKKHRYDIVDTGI---EPRLAVDVSSLPMAGNATYDTGSSFVIPHIDHIVPYS 596
Db 1906 QLLDVIHYVNGVSTQGMTLEEVNRALDM-SLPSLVLKATR-----NDLPVYVPS 1953
QY 597 WLTRDQIATIKYVMQHPVPRDIMSKEGHEESGVI-PNVYPLDKRAGMPNMQIHSAAE 655
Db 1954 --KRSAVSA-----PKSTKNGSSYSVSGSCSQPALTPNDSFSTV-----AGEE 1993
QY 656 VQK-ALAEGRFATPDGYIF--DPRVLAKEFVWKDGSFSLPRADGSSSLRTINKSDLSQA 712
Db 1994 INEISYPKGCST--YQIKGSPNLTLPKESYIQEDDIY-----DQSEAEVIOQLDLY 2045
QY 713 EMQQAQELLAKKN-AGDA-----TDPTD--KPEKQADKSN---- 745
Db 2046 D-EAQNLNENNAAGDSCGPTLKNNGKLSEERTEDTDCGSPLEPYFTTEATKMGCEE 2104
QY 746 --ENQOPSEA--SKEEKESD-----FDSLDPYGLDRATLED 780
Db 2105 YCEEKVKSESLIQKQEKTTDDDEITWGNDEL---IERTNHED 2145

RESULT 8

US-09-100-804-3

; Sequence 3, Application US/09100804
; Patent No. 6066472

; GENERAL INFORMATION:

; APPLICANT: GONZ, LEONEL JORGE

; APPLICANT: SARAS, JAN

; APPLICANT: CLAESSEN-WELSH, LENA

; APPLICANT: HELDIN, CARL-HENRIK

; TITLE OF INVENTION: PRIMARY STRUCTURE AND FUNCTIONAL

; TITLE OF INVENTION: EXPRESSION OF NUCLEOTIDE SEQUENCES FOR NOVEL PROTEIN

; NUMBER OF SEQUENCES: 34

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: WOLF, GREENFIELD & SACKS, P.C.

; STREET: 600 ATLANTIC AVENUE

; CITY: BOSTON

; STATE: MASSACHUSETTS

; COUNTRY: USA

; ZIP: 02210

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patentin Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/100,804
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/596,291
FILING DATE: 09-AUG-1996
APPLICATION NUMBER: US 08/115,573
FILING DATE: 01-SEP-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/09943
FILING DATE: 01-SEP-1994
ATTORNEY/AGENT INFORMATION:
NAME: GATES, EDWARD R.
REGISTRATION NUMBER: 31,616
REFERENCE/DOCKET NUMBER: LO461/7003
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-720-3500
TELEFAX: 617-720-2441
TELEX:
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 2465 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-09-100-804-3

Query Match 3.0%; Score 133; DB 3; Length 2465;
Best Local Similarity 19.9%; Pred. No. 0.12;
Matches 176; Conservative 114; Mismatches 322; Indels 272; Gaps 44;

QY 9 GSAAILLATHIGSYLGKHHM---GSATKDNQIAYIDSKGAKAPKTNTMD-QISAE 64
Db 1422 GQVHLLLEK--GQSPFSKEHVPTPQCTLSQNA---QGQPEKVKKTTQYKDYSFVTE 1476
QY 65 EGISAQIVKIVKITDQGYVTHSHGDHYHFNKVPYDAIIEELLMTDPNRRKQSDVINEI 124
Db 1477 ENTFEVKLFKNSSGLGFSRSRED--NLIPEQINASTIVKVKLFAGQPAESGKIDYGDVI 1534
QY 125 LDGYVIVKNGNYVYLKPSKRRKNIRT-----KQK 154
Db 1535 L-----KVNG---ASLKLISQOEVISALRGTAPEVLLLCRPPGVLPEIDTALLTPLOS 1586
QY 155 IAEQVAKGTKEAKEKGLAQAHLKSKEVAAVNEAK-----RQGRYTT---DDGYIFS 203
Db 1587 PAQVLPNSSKSSQPSQVEQSTSSDENEMSDSKKQCKSPSRDYSYSSGSGEDDLVTA 1646
QY 204 PTDIIDLDGDAYL-----VPHGNHYHYIPKRDLPSELAAQAAYWSQKQGRGARPSDY 256
Db 1647 PANISNSTWSSALHQTLNMVYSAQASHHEAPK---SQEDTICTMFFYYPQKIPNKEFEDES 1703
QY 257 RPTPAPARGRRKAPIDVTPNPGQGHQPDNGGYHAPRRPNDASQNKHODEFKGKTKE 316
Db 1704 NPSPLP-----PDMA--PGQSYQPS-----ESASSSSMDKYHIHIISEPTROE 1745
QY 317 LLDQLHRLDLKYRHYEEDGLIFE-PTQVYKSN--AFGYVVRPHGDHYHIIIPRSQSLPLEME 373
Db 1746 NWTPL-KNDLE-NHLEDFELEVELLITLIKSEKASLGFTVTGN-----Q 1788
QY 374 LADRYLAGQTEDDSGSDHSPSDK-----EVTHTFLGHRIRKAYGKG---LDGK 419
Db 1789 RIGCYVHDVIOQPAKSDGRLLKPGDRLLIKVNDTDTVNTHTDAVNLLRAASKTVRLVIGRV 1848
QY 420 PYDTSDAYVFSKESIHSVDSKSGVTAKHGDFHYIGFGELEQYELDEVAANWVAKAKQADEL 479
Db 1849 PRITQNTNVASFATGH-----KLTCKKEEL 1873
QY 480 AALDDQEGKEKPLEDTKKVSRKVTTKDGKGYMMPKDGKDYFYARDQDLDTQIAFAEQEL 539
Db 1874 GFSL---CGHDSLQYVYIS-----DINPRSVAAIEGNL 1905
QY 540 MLKDKKHRYRDIYDTGI---EPRLAVDVSSLLPMHAGNATYDTGSSFEVIPHIDHIVPYS 596

Db 1906 QLLDVTHYVNGSVTQGMTELEVNRLADM-SLPSLVKATR-----NDLPVPPSS 1953
QY 597 WLTRDQIATIKYVMQHEVPRPDWSKPGHEESGYSI-PNVTPLDKRAGMPNWQIIHSAEF 655
Db 1954 --KRSVSA-----PKSTKNGSGYSVSGSQPALTPNDSTV-----AGEE 1993
QY 656 VQK-ALAEGRFATPDGYIF--DPRDVLAKETFWWKDGSFISIPRADSSLRITINKSDLSQA 712
Db 1994 INEISYPKGCST---YQIKGSPNLTLPKESYIQEDDIY-----DQSEAEVITQSLDVV 2045
QY 713 EWQQAQELLAKKN-AGDA-----TDTD--KPEKQADKSN--- 745
Db 2046 D-EAQNLLNENNAAGDSGPGTLKMGKLSERTEDTDCDGSPLPEYFTEATKMGCEE 2104
QY 746 --ENQPPSEA--SKEEKESDD----FIDSLPDYGLDRATLED 780
Db 2105 YCEEKVKSESLIQKPEKKTDDDEITWGNDELP--IERTNHED 2145

RESULT 9

US-08-296-791-3

Sequence 3, Application US/08296791

Patent No. 6245337

GENERAL INFORMATION:

APPLICANT: St. Geme III, Joseph W.

APPLICANT: Falkow, Stanley

TITLE OF INVENTION: Haemophilus Adherence and Penetration

TITLE OF INVENTION: Protein

NUMBER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS:

ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert

STREET: 4 Embarcadero Center, Suite 3400

CITY: San Francisco

STATE: California

COUNTRY: United States

ZIP: 94111-4187

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent in Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/296,791

FILING DATE: 25-AUG-1994

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: Treccartin, Richard F.

REGISTRATION NUMBER: 31,801

REFERENCE/DOCKET NUMBER: A-59941/RFT/RMS

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 781-1989

TELEFAX: (415) 398-3249

TELEX: 910 277299

INFORMATION FOR SEQ ID NO: 3:

SEQUENCE CHARACTERISTICS:

LENGTH: 1541 amino acids

TYPE: amino acid

TOPOLOGY: unknown

US-08-296-791-3

Query Match 3.0%; Score 131.5; DB 4; Length 1541;
Best Local Similarity 17.5%; Pred. No. 0.078;
Matches 153; Conservative 111; Mismatches 294; Indels 315; Gaps 37;

QY 44 DSKGAKA-----PKTNKTMQISAEQISAEQIVKITYDGYVTHSHGDHYHFNK 95
Db 462 DNKSLKVGDTVILKQQTNGSGQHAFASVGIYSGRSTLVLLNDKQVDPNISTYFGFRGR 521
QY 96 -----VPYDAI-----ISELLMTDPN-----YRFKQSDVIN- 122
Db 522 LDINGNSLTFDHIRNIDGARLVNHNMTNASNITITGESLITDPNTTTPYNIDAPDEDNP 581

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QY 123 ---EILDG---YVIVKNGNYVYLKPGSKRKN1-----RTKQIAEOVA 160
      | | | : | | | | | : | : |
Db 582 YAFRIKDGQQLYMLNENYTYALRKGASTRSELPKNSGESNENLWYMGKTSDEAKRNVM 641
QY 161 K-----GTKEAKEKGLAOVAHLSKEEVAAVNEAKRQGRYTTDDGYIFSPTD 206
      | : | | | | | | | | | | : | | : |
Db 642 NHINNERMNGFNGYFGEEGKNNGNLNVTFKGSSE-----QNRFLTLTG-----TN 687
QY 207 IIDL----GDAYL----VPHGNHYH1--PKKD--LSPSELAAAOAVWSQKQGRGARPS 254
      : | | : | : | | | | | | : | : |
Db 688 LNGDLTVEKGTFLSGRPTPHARDIAGISSTKKDPHFAENNEVVVEDDM1NR----- 739
QY 255 DYRPTPAPARGRRKAP1PDVTPNPGQGHQPDNGCYHAPRPRNDASQNKHQ----- 305
      | | | | | | : | : | | : | | | |
Db 740 -----NEKATIMNV-----GNASLYSGRNVANITSNITASNKAOVHIGYKTTGD 783
QY 306 ---RDEFKKG---TFKELLDQLHRDLKRYRHEEDGLIFEPTQVI----- 344
      | : | | | : | | : | : | : | : |
Db 784 TVCVRSODYTGYVCTTDBKLSDKALN-----SFNPTNLRGNVNLIESANFVLG 830
QY 345 KSNAFGYVVPBGD-----HYH1PRSQLSPLEMELADRYLAGQTEDDSDGSDHSP 395
      | : | | | : | : | | : | | : | : |
Db 831 KANLFGTIOSRGNSQVRLTENSJHMLTGNSDVHQDLA-----NGHIHLNS 876
QY 396 SDEKVTHTFLGHRKAYKGLDGKPYDTSDAYVESKESHSVDKSGVTAKHGDFHYIGF 455
      : | : | : | : | : | : | : | : | : |
Db 877 AD-----NSNNVTKYNTLTVNSLSGNG-----SFYYL-- 903
QY 456 GELEQYELDEVANWVKAKGQAD-ELAAALDQEQKKEKPLFDTKVSRKVTKDGKGYMP 514
      : | : | : | : | : | : | | | | | |
Db 904 TDLSNKQGDKVVTKTSATGNFTLQVADKTGEPRNHNELTLFDASKAQRDLNVLVSG--- 959
QY 515 KDGKDYFYARDQLDLTQIAFAEOELMLKDKKHRYVDIVDTGIEPR-----L 560
      : | | : | : | : | : | : | : | : |
Db 960 -----NTVDLGAMKVKLRNV-----NGRYDLYNPEVEKERKNOTVDTTNITPPNNI 1003
QY 561 ADVSSLPMAHAGNATYDTGSSFEV1PHIDH1HVVPYSWLTTRDQIATIKYVMQHPEVABDIW 620
      | | | : | : | : | : | : | : |
Db 1004 QADVPSVP-----SNNEELARVDEAPVPPAPAT-----PSETTETV 1040
QY 621 SKPGHESGSVIPNVTPLDKRACMPNMQI1HSAAEVOKALAEGRFATPDGYIFDPRDYLA 680
      : | : | | | : | : | : | : | : | : |
Db 1041 AENSKQESKTEVEKNEQDATERTAQ-NREVAKEAKSNVKANQOTNEVAQSG--SETKETQT 1097
QY 681 KETFWKDGSSFS1PRADGSSLRTINKSDLSQAEWQQAQELLAKKNAGDATDTDKPKRKO- 739
      | | : | : | : | : | : | : | : |
Db 1098 TET-----KETATVEKEEKAKVETEKTOEV-----PKVTSQVSPKQEOS 1136
QY 740 ----OADKSNENQOPSEASKKEEKESDDFIDS 767
      | | : | | | : | : | : | : |
Db 1137 ETVOPOAEPAAREN-DPTVNIKEPOSQNTNTTADT 1168

RESULT 10
PCT-US95-10661A-3
: Sequence 3, Application PC/TUS9510661A
: GENERAL INFORMATION:
: APPLICANT: Washington University, et al.
: TITLE OF INVENTION: Haemophilus Adherence and Penetration Protein
: NUMBER OF SEQUENCES: 9
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Flehr, Hobach, Test, Albritton & Herbert
: STREET: 4 Embarcadero Center, Suite 3400
: CITY: San Francisco
: STATE: California
: COUNTRY: United States
: ZIP: 94111-4187
: COMPUTER READABLE FORM:
: MEDIUM TYPE: Floppy disk
: COMPUTER: IBM PC compatible
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: PatentIn Release #1.0, Version #1.25

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1      CURRENT APPLICATION DATA:
2      APPLICATION NUMBER:  PCT/US95/10661A
3      FILING DATE: 16-AUG-1995
4      CLASSIFICATION:
5      PRIOR APPLICATION DATA:
6      APPLICATION NUMBER:  US 08/296,791
7      FILING DATE: 25-AUG-1994
8      CLASSIFICATION:
9      ATTORNEY/AGENT INFORMATION:
10     NAME: Trecartin, Richard F.
11     REGISTRATION NUMBER: 31,801
12     REFERENCE/DOCKET NUMBER:  FP-59941/R
13     TELECOMMUNICATION INFORMATION:
14     TELEPHONE: (415) 781-1989
15     TELEFAX: (415) 398-3249
16     TELEX: 910 277299
17     INFORMATION FOR SEQ ID NO: 3:
18     SEQUENCE CHARACTERISTICS:
19     LENGTH: 1541 amino acids
20     TYPE: amino acid
21     TOPOLOGY: unknown
22
23 PCT-US95-10661A-3

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query match	3.08;	Score 131.5;	DB 5;	Length 1541;
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Best Local Similarity 17.5%; Pred. No. 0.078;
Matches 153; Conservative 111; Mismatches 294; Indels 315; Gaps 37;

QY	44	DSKGKAKA-----	-PKTNKTMDOISAEEGISAEQIVK	ITDQGYVTISHGDIHYHFNKG	95	
		: :	: :	: :	: :	
Db	462	DNKGSGLKVG	DGTVLKQQTNGSGQHAFASVGIVSGRSTLV	LNDKQVDPNSIYEGFRGR	521	
QY	96	-----VPYDAI-----	-----ISELLMTDPN-----	YRFQSDVIN-	122	
		: :	: :	: :	: :	
Db	522	LDLNGNSLTF	DHIRNIDOGARLVNHNMTNASNITITGESLIT	DPNTITPYNIDAPDEDNP	581	
QY	123	-----ELDG----	YVIKVNNGNYVYLKPSKRRKN	-----RTRQOIAEQVA	160	
		: :	: :	: :	: :	
Db	582	YAFRRIKDGGQ	LYLNLNENTYYALRKGASTRSEL	PKNSGESNENMLYMGKTSDEAKRNVM	641	
QY	161	K-----	GTKEAKEKCLAQVAHLSKEEVAAVNEAKRQGRYT	TTDDGYIFSP	206	
		: :	: :	: :	: :	
Db	642	NHINERNMNGF	NGYFGEEGEGRKNGNLTVPFKGSE-----	QNRFLLTGG-----	TN 687	
QY	207	IIDL----	GDAYL----	VRPHGNHYHYI--	PKKD--LSPSELAQAQAYWSQKQGRGARS	254
		: :	: :	: :	: :	
Db	688	LNGLITVEKGT	FLFLSGRPTPHARDIAGISSTKKDPHFAENNEV	VEDDWINR-----	739	
QY	255	DYRPTPARAPGR	KKAPIPDVTPNPGQGHQDPDNGGYHPRAPRPNDASQ	NKHQ-----	305	
		: :	: :	: :	: :	
Db	740	-----	NEKATTMNVT-----	GNASLYSGRNVANITSNITASNKAQVHIGYK	783	
QY	306	----RDEFGK--	TFKELLQHLRLDLKYRHEEDGLIFEPTQYI-	-----	344	
		: :	: :	: :	: :	
Db	784	TVCVRSDYTG	VYVCTTDLKSDKALN-----	SENPNTLRGNVNLTESANFVLG	830	
QY	345	KSNAGYVVRPHGD-----	HYHIIPRSQLSPLEMELADRYLAGQTEDDSGSDHSP	395		
		: :	: :	: :	: :	
Db	831	KANLFGTIGSR	NSQVRLTENSIMHMLTGNSDVHQDLA-----	NGHILNS	876	
QY	396	SDKEVHTHFLG	HRIKAYGKGLDGKPYDTSDAYVFESKESIHSYDKSGVTAKHGDHFN	YIGF	455	
		: :	: :	: :	: :	
Db	877	AD-----	-----NSNNVTKYNTLTVNSLSGNG-----	SFYYL--	903	
QY	456	GELEQYELDE	VANWVKAKQAD-ELAAALDQEQKEKPLFDP	TKKYSRKVTKDGKVG	YMP 514	
		: :	: :	: :	: :	
Db	904	TDLSNKQGD	KVVVTKSATGNFTLQVADKTGE	PNHNELTLFDASKAQRDHLN	SLVG--- 959	
QY	515	KDGKDYFYAR	DQDLTQIAFAEQELMLKDKKHRYR	YDIVDTGIEPR-----	L 560	
		: :	: :	: :	: :	
Db	960	-----	NTVDLGAMKKLRNV-----	NGRYDLNPEVERKNOTVDTNIT	PPNNI 1003	
QY	561	AVDVSSLPMA	GNAATYDTGSSFVIRPHDHIHV	VPYSWLTTRDQATIKYVMQHP	EVPRDIW 620	

Db 1004 QADVPSVP-----SNNEIARVDEAPVPPAPAT-----PSETTEV 1040
QY 621 SKPGHEESGVIPNVTPLDKRAGMPNMQIIHSAEEVQKALAEGRFATPDGYIFDPRVLA 680
Db 1041 AENSKQESKTEYKNEQDATETTAQ-NREVAKEAKSNVKANTQTNEVAQSG--SETKETQT 1097
QY 681 KETFWKDGSGFSIPRADGSSLRTINKSDLSQAEMQAQELLAKKNAGDATDTDKPKKEQ- 739
Db 1098 TET-----KETATVEKEEKAKEVETEKTOEV-----PKVTSQVSPKQEQS 1136
QY 740 -----QADKSNEHQPSSEASKEEKEESDDFIDS 767
Db 1137 ETVPQAEPAREN-DPTVNIKEPQSQNTTADT 1168
RESULT 11
US-08-867-941-19
; Sequence 19, Application US/08867941
; Patent No. 5977337
; GENERAL INFORMATION:
; APPLICANT: Loosmore, Sheena M
; APPLICANT: Du, Run-Pan
; APPLICANT: Wang, Quijun
; APPLICANT: Yang, Yan-Ping
; APPLICANT: Klein, Michel H
; TITLE OF INVENTION: LACTOFERRIN RECEPTOR GENES OF MORAXELLA
; NUMBER OF SEQUENCES: 67
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Sim & McBurney
; STREET: 6th Floor, 330 University Avenue
; CITY: Toronto
; STATE: Ontario
; COUNTRY: Canada
; ZIP: M5G 1R7
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/867, 941
; FILING DATE: 03-JUN-1997
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Stewart, Michael I
; REGISTRATION NUMBER: 24,973
; REFERENCE/DOCKET NUMBER: 1038-681 MIS:jb
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (416) 595-1155
; TELEFAX: (416) 595-1163
; INFORMATION FOR SEQ ID NO: 19:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1076 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; US-08-867-941-19
Query Match 2.9%; Score 128.5; DB 2; Length 1076;
Best Local Similarity 20.1%; Pred. No. 0.08;
Matches 141; Conservative 87; Mismatches 244; Indels 231; Gaps 40;

Db 263 VA-----TTDPNNR--TFLIANEC-----ANGNYEACAAGGQTKLQAKPTNVRDKVNVK 309
QY 157 EQVAKG-----TKEAKEGLAQAHLN-KEEVAAVNEAKRQGRYTITDDGYIESPTDII 208
Db 310 DYTGNRLIPNPLTQDSKSLLRPGYQINDKHYGVYEITKQ-NYAMQDKTV----- 361
QY 209 DDLGDALVLPNGNHYIIPKDLSPSEL---AAAQAYWSQKQGRGARSIDYRTPAPAPG 265
Db 362 ----PAYLAVH-----DIEKSRLSNAQAANGY-OGNNLGERIRD----- 396
QY 266 RRKAPIDVTNPGQGHQPDNGYHPAPRPNDASQNKHORDER-----KGKTEK 315
Db 397 -----TIGPSGYGINYAHGVFY-----DEKHQKDRLELYYDYSKGENKWF 439
QY 316 ELDDQLRLDL-----KYRHVEEDGL--IEPTQVIKSNAFGYVVPH----- 355
Db 440 DVRSYDKQDITLRSQLTNTHCSTYPHIDKCPDVNKPFSYKEVDNNAKKEQHNLKAV 499
QY 356 -----GDHYHIIPR-----SOLSPLEMLADRYLAGQTEDDSGSDHSPSDEK 400
Db 500 FNKKMALGSTHHHNLQYGYDKFNSSLSRVEYRLA-----THQSYQKLDYTPSPNP-- 550
QY 401 THFTLGHRIKAYGKGLDCKPYDTSDAYVFSKESHSYDKSQVTAKHGDMHYHIGFGELEQ 460
Db 551 ----LPDKFKPI-LGSNNKPI-CLDAYGYGHD-----HPQACNAKNSTYQNFAIKKIEQ 599
QY 461 YELDEVANWVKAKQADEL--AAALDQ--EQGKEKPLFDTKKVSR-----KVTKDGVGY 511
Db 600 Y-----NOKTNTDKIDYQAIIDQYDKQNPSTLKPFEKIKQSLGQEKYKIDELGF 650
QY 512 MPMKD-----GKDYFYARDQDLDTQIAFAEQELMLKDKKHRYDYIV 552
Db 651 KAYKDLRNEWAGWTINDSQONANKGTDNIYQ-----PNQATVVKDDK-CKYS-- 696
QY 553 DTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIVVPY 595
Db 697 ----ETNSYADCSTTPRHI-----SGDNYFIALKDNMTJNKY 729
RESULT 12
US-09-074-658-19
; Sequence 19, Application US/09074658
; Patent No. 6184371
; GENERAL INFORMATION:
; APPLICANT: Loosmore, Sheena M
; APPLICANT: Run-Pan Du
; APPLICANT: Quijun Wang
; APPLICANT: Yang, Yan-Ping
; APPLICANT: Klein, Michel H
; TITLE OF INVENTION: LACTOFERRIN RECEPTOR GENES OF MORAXELLA
; NUMBER OF SEQUENCES: 78
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Sim & McBurney
; STREET: 6th Floor, 330 University Avenue
; CITY: Toronto
; STATE: Ontario
; COUNTRY: Canada
; ZIP: M5G 1R7
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/074, 658
; FILING DATE: 08-MAY-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Stewart, Michael I
; REGISTRATION NUMBER: 24,973
; REFERENCE/DOCKET NUMBER: 1038-795
; TELECOMMUNICATION INFORMATION:

TELEPHONE: (416) 595-1155
 TELEFAX: (416) 595-1163
 INFORMATION FOR SEQ ID NO: 19:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 1076 amino acids
 TYPE: amino acid
 STRANDEDNESS: single
 TOPOLOGY: linear
 US-09-074-658-19

Query Match 2.9%; Score 128.5; DB 4; Length 1076;
 Best Local Similarity 20.1%; Pred. No. 0.08;
 Matches 141; Conservative 87; Mismatches 244; Indels 231; Gaps 40;

QY 3 KTYGIGSVAAILLATHISYOLGK---HHMSATKDNQIAYI---DD--SKGK--- 48
 DB 148 KNYAAGGAINIEY-ENVRSEIVEISKANSSEYSGALSGSAFVTKTADITIKDKDWGV 206
 QY 49 ---AKAPKTNKTMQISAEGISAEQIVVKITD---QGYVTSBGDHYHFYNGKVPYDAI 101
 DB 207 QTKTAYASKNNAMWNSVAAGKAGSFGSLIITDRGOEY-KAHD--AVQGSQSEFRA 262
 QY 102 ISEELMTDPNRYFKQSDVINELDGYIVKNGNYYVYLKPG-----SKRKNIRTKQOIA 156
 DB 263 VA---TTDPNNR--TELLANEC-----ANGNYEACAAGQTKLOAKPTNVKDKVNVK 309
 QY 157 EQYAKG-----TKAEKGLAQVAHLS-KEEVAAVNEAKRQGRYTTDDGYIFSPDII 208
 DB 310 DYTGNRLIPNPLTQDSKSLLRPGYQLNDKHYGVYEITKQ-NYAMQDKTV----- 361
 QY 209 DDLGDAYLVPHGNHYHYPKKDLSPSEL---AAQAYWSQKQGRGARPSPDYRPTPAPAG 265
 DB 362 ---PAYLAVH-----DIEKRLSNHAQANGY-QGNNLGERIRD----- 396
 QY 266 RRRKAPIDVTPNPGQGHODNGGYHAPRRPNDSQNKHQRDEF-----KGTFFK 315
 DB 397 -----TIGPDSGYGINYAGVFY-----DEKHQKRLGLEYYVYDSKGENKWF 439
 QY 316 ELLDQLHRLD-----KYRHEVEDGL--IFEPTQVIXSNAFYVPH----- 355
 DB 440 DVRVSYDKODITLRSQLTNTHCSTYPRHDKNCTPDVKNKPFVSKVDNNAKQHNLIKAV 499
 QY 356 -----GDHYHIIPR-----SLSPLMELADRYLAGQTEDDSGSDHSPSKDEV 400
 DB 500 FNKKMALGSTHHHINLQYGYDKFNSSLSRVEYRLA-----THQSYQKLDYTPPSNP-- 550
 QY 401 THFLGHRKAYGKGLDGPYDTSDAYVFSKESHSVDSKSGVTAKHGDHFIYIGFGELEQ 460
 DB 551 ---LPDKFKPI-LGSNNKPI-CLDAYGYGHD-----HPQACNAKNSTYQNFPAIKKGEIQ 599
 QY 461 YELDEVANWVAKAGADEL--AAALDQ--EQGKEKPLFDTKKVSR-----KVTGDKGVY 511
 DB 600 Y-----NOKTNTDKIDYQAIIDQYDKQPNSTLKPFEKIKQSLGQEKYKIDELGF 650
 QY 512 MPRKD-----GKDYFYARDQLDLTQIAFAEQELMLKDKKHRYRDIY 552
 DB 651 KAYKDLRNEWAGWTNDNSQONANKGTDNIIQ-----PNQATVYKDDK-CKYS-- 696
 QY 553 DTGIEPLAVDVSSLPMAHAGNATYDTGSSSFVIPHIDHIVPV 595
 DB 697 ---ETNSYADCSPTPRHI-----SGDNFYALAKDNMTINKY 729

RESULT 13
 US-08-663-112-2
 ; Sequence 2, Application us/08663112
 ; Patent No. 5849503
 ; GENERAL INFORMATION:
 ; APPLICANT: WAGATSUMA, Masako
 ; APPLICANT: KURITA, No. 5849503iko
 ; TITLE OF INVENTION: MUTANT PROTEINS OF HUMAN DNA
 ; TITLE OF INVENTION: TOPOISOMERASE I

NUMBER OF SEQUENCES: 7
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: Finnegan, Henderson, Farabow, Garrett &
 ADDRESSEE: Dunner L.L.P.
 STREET: 1300 I Street, N.W.
 CITY: Washington
 STATE: D.C.
 COUNTRY: USA
 ZIP: 20005-3315
 COMPUTER READABLE FORM:
 MEDIUM TYPE: floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: PatentIn Release #1.0, Version #1.30
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/663,112
 FILING DATE: 26-NOV-1996
 CLASSIFICATION: 435
 ATTORNEY/AGENT INFORMATION:
 NAME: Elinaudi, Carolyn P.
 REGISTRATION NUMBER: 32,220
 REFERENCE/DOCKET NUMBER: 06609.1488-00000
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: 202-408-4000
 TELEFAX: 202-408-4400
 INFORMATION FOR SEQ ID NO: 2:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 765 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MOLECULE TYPE: protein
 US-08-663-112-2

Query Match 2.9%; Score 127; DB 2; Length 765;
 Best Local Similarity 20.1%; Pred. No. 0.063;
 Matches 137; Conservative 90; Mismatches 240; Indels 214; Gaps 34;

QY 141 KPGSKRNIRTKQIAEQVAKTKEAKKGLAQVAHLSK-----EEVAAVNEAK 189
 DB 42 KDKREKSHNSEHKSDEKHKHKEKTKHKDGSSEKHKDKRDKKREKRVASGDAK 101
 QY 190 RQGRYTTDDGYIFSPDIIID-LGDAYLVPHGNHYHYPKKDLSPSELAAQAYWSQKOG 248
 DB 102 I--KKEKENG-SSPQIKDEPEDDGYFV-----PKEDIKP-----LKR 139
 QY 249 RGARPSDYRPTPAPARGRRKAPIDV-TNPNQGHODPNDNGYHAPRRPNDSQONKHORD 307
 DB 140 RDEDVDYKPKKIKTETDTKKEKKRLKEEEDGKLKPKNKDKDKKVPEDPNKKPKKEE 199
 QY 308 EFKGTEKELLQHLRLDKYRHEVEDGLIFEPT-----QVAK----- 345
 DB 200 EQKMKWEE---ERYPEGIKWFLHKKGPVFAPPEPLPENVKFYDGKWKLSPKAEV 256
 QY 346 SNAFYVPH-----GDHYHIIPRSQLSPLMELADRYLAGQTE 384
 DB 257 ATEFAKMLDHEYTTKEIFRNFEKDKRKEMTNEKNIT--TNLSKCDFTQMSQYFKAQTE 314
 QY 385 DDDSGSDHSPSKDEVTHFLGHRKAYGKGLDGPYDTSDAYVFSKESI--HSVDKSGV 442
 DB 315 ARKQMSKEEKLKIKEENEKL---KEYG-----FCIMDNH--KERIANFKTEPPGL 360
 QY 443 TAKHGDHFHYIGFGELEQYELDE--VANWVAKAGQADELAALDQEQGKEKPLFDTKKV- 499
 DB 361 FRGRGNH--PKMGMLKRRIMPEDIIINCSK-----DAKVPSPPGHKWKEVR 405
 QY 500 -SRKYT-----KDGKGYTM-----PKDGKDYFYARDQLDLTQIAFAEQELML 541
 DB 406 HDNKVTWLVSWTENIQGSIKYLMLNPSSRIKGEKQWKYETAR-----RLKKCYD 455
 QY 542 KDKKHRYVDIVDTGIEPR-----LAVDVSSLPMAHAGN-----ATYDTGS--SFVIPHD-- 588
 DB 456 KIRNOYREDWKSKEKMYQRAVALYFIDKLALRAGNEKEEGETADTVGCSLRVEHINLH 515

QY 589 -----HIHVVPYSWLTFRDQIATIKYVMQHPEVRPDIWSKPGHESSGVIPNVTPLDKRAG 643
 Db 516 PELDQGEYVEEFLGKD---SIRY-----NKVPEKRV- 547
 QY 644 MPNWQIIHSAEEVQKALAEGRFATPDGYIFDPRD--VLAKETFWKDGSEFSIPRADGSSL 701
 Db 548 FKNLQLEMEKQ-----PEDDLFDRINTGILNKLQDIMEG-----LTAKVF 589
 QY 702 RTINKSDLSQAEWQQAQELLA 722
 Db 590 RTFNASITLQ---QQLKELTA 607

RESULT 14
 5231168-2
 ; Patent No. 5231168
 ; APPLICANT: DZIEGIEL, MORTEN;BORRE, MARTIN;JEPSEN, SOREN;
 ; VUUST, JENS;RIENECK, KLAUS;WIND, ANNETTE;JAKOBSEN, PALLE H.
 ; TITLE OF INVENTION: MALARIA ANTIGEN
 ; NUMBER OF SEQUENCES: 19
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/07/409,658
 ; FILING DATE: 18-SEP-1989
 ; SEQ ID NO:2:
 ; LENGTH: 783
 5231168-2

Query Match 2.9%; Score 127; DB 6; Length 783;
 Best Local Similarity 17.9%; Pred. No. 0.065;
 Matches 153; Conservative 147; Mismatches 309; Indels 246; Gaps 42;

QY 41 YIDDSKGAKAPKNTKMDQISAEEG-----ISAQIVVKITDQGYVTSBGD 88
 Db 2 FVESEKSEHGAEN---EESLSEGHHEIIVPEQNNEESGESKLVNDEGGFEAHHEN 57
 QY 89 Y--HFYNGKVPYDAIIESELLMTDPNRYRKQSDVINELDGYVYKNGNYVYLKPGSKR 146
 Db 58 FSSEVSNSLENEFVESDKSVTEP---AEHEEVSE-----ESNPEAENEESI 105
 QY 147 KNIRTKQOIAEQVAKGTKEAKEKGLAQAVALHLSKEEVAAVNEAKRGRTYTTDDGYIFSPD 206
 Db 106 EEAHQEEIYVEQ---NDEESGESGLVD-----NE---EGDFEERNHEEFEPDQ 147
 QY 207 IIDDLDAYLVPH-----GNHYHYPKKDLS-PSE-----LAAQAYWSQKQ 248
 Db 148 NDSLESENLEVESEKSVSEPAHEVELVSEKSVSEPAHEVELVSEKSTSEPAHEVESVSEQ 207
 QY 249 RGARPSDYRPTAPAPGRKAPIPDVTN--PGQGHQPDNGCYHPAPRPNDAS----- 300
 Db 208 SNNEPSEKKDGPVPSKPFEEIEKYDVQPKIVDQIIEPNVDSQPNQEPVEPSEFVIEK 267
 QY 301 ---QNKQRDEFEKGTFFKELLDLRLDLKYRHVEEDGLFEPTQVYKSNAGYVVPHG 356
 Db 268 VPSEENKHAHVDEPVEKE-KENVSEY-----VEEKQNSQESVEEIPVNE----- 309
 QY 357 DHHIIPRSQSLPEMELADRYLAGQTEDDSGSDHSPS--DKEVTHFLGHRIRKAYG 413
 Db 310 DEFEDVHTEDLD-----LDHKTVDPEIVEVEEIPSELHENEVAH----- 348
 QY 414 KGLDGKPYDTSDAYVFSK-----ESIHSVDSKSGVTAKHGDHFIYIGFGELEYELDEV 466
 Db 349 -----PEIVEIEVEFPEPNQNNPEQIENEDDKSA-----HI-----QHIEVEY 386
 QY 467 ANWVKAKGQADELAALDQEQGEKPLFDTKKVSRKVTGDKGVGYMMPKDGKDYFYARDQ 526
 Db 387 -----EELPEDDKNEKEHEIVEVEI-----LPEDKNE-----KGQ 419
 QY 527 LDLTQIAFAEQELMLKDKKHYR--YDIVDTGIEPRLAVDVSSLPMAHGNATYDTGSSSVI 584
 Db 420 HEIVEV-----EELPEDDKNEKEHEIVE--VEEILPEDKNEKQOHE-----I 461

QY 585 PHIDHIVVPYSWLTFRDQIATIKY-VMOHPEVRPDIWSKPGHESSGVIPNVTPLDKRAG 643
 Db 462 VEVEEL-----LPEDKNEKEHEIVEVEEILPEDKNEKGQHEIVEV-EELPEDK--- 510
 QY 644 MPNWQIIHSAEEVQKALAEGRFATPDGYIFDPRDVLAKETFWKDGSEFSIPRADGSSLRT 703
 Db 511 --NEKVQHEIVEVEEILPEDKNEKGQHEIVEVEEILPEDKNEK-QQHEIVEVE-EILP 565
 QY 704 INKSDLSQAEWQQAQELLA---KKNAGDATDTRK--PK--EKQADKSNENQPSSEASK 755
 Db 566 EDKNEKVQHEIVEVEEILPEDKNEKVQHEIVEVEEILPEIVEIEEVPSTQNNNENIETIK 625
 QY 756 EEEKESDDFID--SLPDYGLDRATLEDHINOQLAQKANIDPKYLIQPEGVQFYNNKNGELV 813
 Db 626 PEKKNEFSVEEKAIPQ-----EPVPTLNENENVTTPK-----PSEGEST 665
 QY 814 TYD---IKTLQQINP 825
 Db 666 KPDIVQIKIVQENKP 680

RESULT 15
 US-08-296-791-6
 ; Sequence 6, Application US/08296791
 ; Patent No. 6245337
 ; GENERAL INFORMATION:
 ; APPLICANT: St. Geme III, Joseph W.
 ; APPLICANT: Falkow, Stanley
 ; TITLE OF INVENTION: Haemophilus Adherence and Penetration
 ; TITLE OF INVENTION: Protein
 ; NUMBER OF SEQUENCES: 9
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert
 ; STREET: 4 Embarcadero Center, Suite 3400
 ; CITY: San Francisco
 ; STATE: California
 ; COUNTRY: United States
 ; ZIP: 94111-4187
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/296,791
 ; FILING DATE: 25-AUG-1994
 ; CLASSIFICATION: 435
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Trecartin, Richard F.
 ; REGISTRATION NUMBER: 31,801
 ; REFERENCE/DOCKET NUMBER: A-59941/RFT/RMS
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (415) 781-1989
 ; TELEFAX: (415) 398-3249
 ; TELEX: 910 277299
 ; INFORMATION FOR SEQ ID NO: 6:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 1848 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: unknown
 US-08-296-791-6

Query Match 2.8%; Score 124; DB 4; Length 1848;
 Best Local Similarity 16.9%; Pred. No. 0.42;
 Matches 155; Conservative 125; Mismatches 336; Indels 302; Gaps 37;
 QY 48 KAKAPKNTKMDQISAEQIVVKITDQGYVTSBGDHYHFNK-----VPYDA 100
 Db 487 KOKADANNKV--QAFSQGVISGRSTLVLNDKQVDPNSIYFGFRGRLDLNGNSLTFDH 544
 QY 101 I-----ISELLMTDPN-----YRFKQSDVINELDGYVYK--- 132

Db 545 IRNIDDGARVNNHNTNTSNTITGESLITNPNTITSYNIEAQD-----DDHPLRIRSI 598
QY 133 -----NGNYVYLLKPGSKRKN-----RTKQOIAEQVAKGTKEAK 167
Db 599 PYRQLYFNQDNRSYTLKKGASTRSELPONGSESNENWLYMGRTSDAKRNVNMHINNER 658
QY 168 EKGLAQVAHLSKEEVAANVEAK-----RQGRYTTDDGYIFSPDTIIDDLGDAYLYP 218
Db 659 MNGFN--GYFGEETKATQNGKLNVTENGKSDQNRFLLTGG-----TNLNGDLN----- 705
QY 219 HGNHYHYIPKKDLSPSELAAQAYWSQKQGRGARPSDYRPTPAPAPGRKAPIPDVTNP 278
Db 706 -----VEKGTLLFLSG-----RPTP----- 719
QY 279 GQGHQPDNGYHPAPRPNDASQNK-HQDEFGKTEFKELLDQLHRLDLKYRHVEEDGLI 337
Db 720 ---HARDIAGISSTKKDPHFTENNEVVEDDWINRNFK----- 754
QY 338 FEPTQVIXSNAFGYVPHGDHYHIIPRSQSPLEMLADRYLAGQT---EDDDSG--SDH 392
Db 755 -ATTMNVGTGNASLY---SGRNVANITSNITASNAQVHIGYKTGDTVCVRSDYTGVTCH 810
QY 393 SKPSDKEVTHFLGHRIKAYGKGLDGKPYDTSDAYVESKESIHSVDSKSGVYAKHGDHFHY 452
Db 811 NSNLSEKALNSFNPTNLRGVNLNTENASFTLGKANLFG--TIOISIGSQVNLKENSHWHL 868
QY 453 IGFELEQYELDEVANVYKAKGADELAALDQEQKEKPLFDTKKVSRKVTKDGVGYM 512
Db 869 TGNSNVNQNLNTNGHILHNAQNDANKVTT-----YNTLTVN-----S 905
QY 513 MPKDGKDYFYA-----RDQDLTQIAFAEQELMKDK---KHRYDIYDTGIEPRLAV 562
Db 906 LSGNGSFYYWDFTNKSNKVVVKNKSATGNETLOVADKTGEPNHNELTLFDASNATR--- 962
QY 563 DVSSLPMHAGNATYDTGSSFVIPHIDHIVVPYSWLTRDQIATIKYVMQHPVPRDIWSK 622
Db 963 --NNLEVTLANGSVDRG-----AW-----KYKLRVNGRYDLYN- 994
QY 623 PGHEESGSVIPN---VTPLDKRAQMPNMQ-----IHSAEVOKALAEGRFAT 667
Db 995 PEVEKRNQTVDTNITTPNDIQADAPSAQSNNEEIARVETPPVPAPAPATESAIASEQPET 1054
QY 668 PDGYIFDPRDLAKETFWKDGSEFIPRADSSILRTINKSLSQAEM-----QQAQE 719
Db 1055 RPAETAQP-----AMEETNTANSTETAPKSDTATQTEPNPSESVPSETTEKVAENPPQENE 1110
QY 720 LLAKKNA-----GDATDTDKP-----KEKQADKSNENQPSSEASKKEEKESD 762
Db 1111 TVAKNEQEATEPTPQNGEVAKEDQPTVEANTQTNENATQSEKTEETQTAE--TKSEPTESV 1169
QY 763 DFIDSLPDYGLDRATLEDHINOLAQKANID-----PKYLLIFQPEGVQFYN 807
Db 1170 TVSENQPEKTVSQSTEDKVVVEKEEKAKAVETEETQAKAPOVTSKEPPKQAEPAPEEVP-TD 1228
QY 808 KNGELVTYDIKTLOQINP 825
Db 1229 TNAE-----EAQALQQTQP 1242

Search completed: December 3, 2001, 07:16:03
Job time: 132 sec

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: December 3, 2001, 07:16:03 ; Search time 39.47 Seconds
(without alignments)
451.548 Million cell updates/sec

Title: US-09-645-835A-4
Perfect score: 4080
Sequence: 1 MKTKKVIILVGLLSQLTL.....DHDHEHEDENEAKDEQNHAD 792

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 212252 seqs, 22503292 residues

Total number of hits satisfying chosen parameters: 212252

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents_AA:*

- 1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep.*
- 2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep.*
- 3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep.*
- 4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep.*
- 5: /cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep.*
- 6: /cgn2_6/ptodata/2/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	322.5	7.9	746	5	PCT-US95-10509-2 Sequence 2, Appli
2	233	5.7	447	4	US-08-961-083-182 Sequence 182, App
3	223	5.5	796	4	US-08-961-083-56 Sequence 56, Appl
4	204	5.0	763	4	US-08-961-083-66 Sequence 66, Appl
5	168	4.1	708	4	US-09-131-648-2 Sequence 2, Appli
6	167	4.1	1112	4	US-09-353-585-2 Sequence 2, Appli
7	167	4.1	1112	4	US-09-353-585-3 Sequence 3, Appli
8	160	3.9	968	4	US-09-180-439-3 Sequence 3, Appli
9	160	3.9	968	4	US-09-180-439-4 Sequence 4, Appli
10	159	3.9	799	4	US-09-180-439-6 Sequence 6, Appli
11	155.5	3.8	359	1	US-08-303-238-4 Sequence 4, Appli
12	155.5	3.8	359	4	US-08-458-834-4 Sequence 4, Appli
13	153.5	3.8	603	1	US-08-190-802A-50 Sequence 50, Appl
14	153.5	3.8	603	4	US-08-477-346-50 Sequence 49, Appl
15	152.5	3.7	605	1	US-08-190-802A-49 Sequence 49, Appl
16	152.5	3.7	605	4	US-08-477-346-49 Sequence 6, Appli
17	152.5	3.7	980	2	US-08-473-553A-6 Sequence 2, Appli
18	152.5	3.7	985	4	US-08-473-553A-2 Sequence 2, Appli
19	151	3.7	806	2	US-08-945-983-2 Sequence 2, Appli
20	151	3.7	863	2	US-08-666-271-2 Sequence 2, Appli
21	150.5	3.7	353	6	5340934-4 Patent No. 5340934
22	150	3.7	1016	4	US-09-180-439-8 Sequence 8, Appli
23	150	3.7	1091	3	US-08-986-485-5 Sequence 5, Appli
24	149.5	3.7	342	1	US-08-272-919-2 Sequence 2, Appli
25	149.5	3.7	342	1	US-08-619-916-2 Sequence 2, Appli
26	149.5	3.7	342	5	PCT-US95-08542-2 Sequence 2, Appli
27	149	3.7	605	4	US-09-063-950-5 Sequence 5, Appli

28	145	3.6	330	1	US-08-238-163-2	Sequence 2, Appli
29	145	3.6	523	2	US-08-473-553A-3	Sequence 3, Appli
30	144.5	3.5	673	4	US-09-063-950-2	Sequence 2, Appli
31	144	3.5	220	1	US-07-991-867B-11	Sequence 11, Appl
32	144	3.5	220	1	US-08-107-755A-11	Sequence 11, Appl
33	144	3.5	220	2	US-08-544-332-11	Sequence 11, Appl
34	141.5	3.5	1196	4	US-08-881-706-2	Sequence 2, Appli
35	140.5	3.4	2756	1	US-08-375-709-11	Sequence 11, Appl
36	140.5	3.4	2756	1	US-08-752-929-11	Sequence 11, Appl
37	140.5	3.4	2756	4	US-09-090-793-7	Sequence 7, Appli
38	140	3.4	282	1	US-08-442-063A-45	Sequence 45, Appl
39	140	3.4	307	1	US-08-442-063A-48	Sequence 48, Appl
40	140	3.4	333	1	US-08-442-063A-27	Sequence 27, Appli
41	140	3.4	1101	3	US-08-986-485-2	Sequence 2, Appli
42	138.5	3.4	2285	4	US-09-308-375-2	Sequence 2, Appli
43	136	3.3	1480	3	US-09-191-647-7	Sequence 7, Appli
44	136	3.3	1480	4	US-09-540-245A-7	Sequence 7, Appli
45	136	3.3	1480	4	US-09-540-153-7	Sequence 7, Appli

ALIGNMENTS

RESULT 1
PCT-US95-10509-2
Sequence 2, Application PC/TUS9510509
GENERAL INFORMATION:
APPLICANT: Campbell, Priscilla
APPLICANT: Potter, Terry
APPLICANT: Sawyer, Richard
APPLICANT: Drevets, Douglas
APPLICANT: Freed, John
TITLE OF INVENTION: INTERNALIN PRODUCTS AND PROCESSES
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESSES:
ADDRESS: Sheridan Ross & McIntosh
STREET: 1700 Lincoln Street, 35th Floor
CITY: Denver
STATE: Colorado
COUNTRY: U.S.A.
ZIP: 80203
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/10509
FILING DATE: 18 AUGUST 1995
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Kovarik, Joseph E.
REGISTRATION NUMBER: 33,005
REFERENCE/DOCKET NUMBER: 2879-11-PCT
TELECOMMUNICATION INFORMATION:
TELEPHONE: 303/863-9700
TELEFAX: 303/863-0223
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 746 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
PCT-US95-10509-2

Query Match 7.9%; Score 322.5; DB 5; Length 746;
Best Local Similarity 30.6%; Pred. No. 1.1e-16;
Matches 92; Conservative 66; Mismatches 136; Indels 7; Gaps 4;
QY 399 VIKLDGSRK--DPLQRKGLSLPNTLTGIGFTPIKDISPVLQFKKLIKOLMTKTGVTD 456
DB 2 ILKTVLGKTNVTPTVSQTDLDQVTTLQADRLG---IKSIDGLEYLNNLTQINFNNQLTD 58

QY 457 YRFLDNMPLEGIDISQNNLKDISFLSKYKNLTLVAAADNGIEDIRPLGQLPNLKLVL5 516
 Db 59 ITPCLKDLTKLVLDILMNNNOIADITPLANITNLGLTLFNNQITDIDPLKNLTNLRLELS 118
 QY 517 NKKISDLSPLASHQLQELHIDNNOITDIPVSHKESLTVDLSRNADVLTATL-QAPKL 575
 Db 119 SNTISDISALSGLTNQQLSF-GNQVTDKPLANITTLERLDISSNKVSDISVLAKLTNL 177
 QY 576 ETLMVNDTKVSHLDFLKNPNLSSLSINRAQLQSLGIEASSVIVRYEAGNOIKSLVLK 635
 Db 178 ESLIATNNQISDITPLGILTNLDELISLNGNQLKDIGTLASLTNLTDLANNQISNLAPL 237
 QY 636 DKQSLTFLDVTGNQLTSLEGVNNFTALDILSVSKNQLTNVNLSPKPKVTNIDISHNNI 695
 Db 238 SGLTKLTELKLGANOISNISPLAGLTALTNLLENQLEDISPISNLKNLTLYLTLYENNI 297
 QY 696 S 696
 Db 298 S 298

RESULT 2
 US-08-961-083-182
 ; Sequence 182, Application US/08961083
 ; Patent No. 6159469
 ; GENERAL INFORMATION:
 ; APPLICANT: Choi et. al.
 ; TITLE OF INVENTION: Streptococcus pneumoniae Antigen and Vaccines
 ; NUMBER OF SEQUENCES: 452
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Human Genome Sciences, Inc.
 ; STREET: 9410 Key West Avenue
 ; CITY: Rockville
 ; STATE: Maryland
 ; COUNTRY: USA
 ; ZIP: 20850
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Diskette, 3.50 inch, 1.4Mb storage
 ; COMPUTER: HP Vectra 486/33
 ; OPERATING SYSTEM: MSDOS version 6.2
 ; SOFTWARE: ASCII Text
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/961,083
 ; FILING DATE:
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER:
 ; FILING DATE:
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Brookes, A. Anders
 ; REGISTRATION NUMBER: 36,373
 ; REFERENCE/DOCKET NUMBER: PB340P2
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (301) 309-8504
 ; TELEFAX: (301) 309-8512
 ; INFORMATION FOR SEQ ID NO: 182:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 447 amino acids
 ; TYPE: amino acid
 ; STRANDEDNESS: single
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-961-083-182

Query Match 5.7%; Score 233; DB 4; Length 447;
 Best Local Similarity 30.1%; Pred. No. 4.1e-10;
 Matches 75; Conservative 36; Mismatches 96; Indels 42; Gaps 12;
 QY 16 SQTLLIACQSRGNGTPIKTKOSRKGMTSNKIKPIKSKTKTNKTHKGAVGVDFPT----- 70
 Db 213 SGLSYSTASDNN-----TQSVAKGSTS--KPAKSENLOSLKEL--YDSPAQRYS 261

QY 71 -DDGFILTKDKILSKTDQGIIVVDHGHSHFIYADLKG--SPFEYLIIP---KGASL--- 121
 Db 262 ESDGLVF-DPAKITSRTNGVAIPHGDHYHFIPYSKLSALEEKIARMVPISTGSTVSTN 320
 QY 122 AKP-----AVAQRAASQGTSK-VADPHHHEFNPAIDVAEDALGYTVRHDPHYIL 172
 Db 321 AKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFIYIP 380
 QY 173 KSSLGQTOAQAKQVATRLPQTSLSLVSTATANGIPGLHPTSDGFQFNGGIVGVTKDSI 232
 Db 381 KSNQIGOPTLPNNSLAT--PSPSLPINPGTSH-----EKHEEDGYGFDANRIIAEDES GF 433
 QY 233 LVDDHGHLLH 241
 Db 434 VMSHGDDHNNH 442

RESULT 3
 US-08-961-083-56
 ; Sequence 56, Application US/08961083
 ; Patent No. 6159469
 ; GENERAL INFORMATION:
 ; APPLICANT: Choi et. al.
 ; TITLE OF INVENTION: Streptococcus pneumoniae Antigen and Vaccines
 ; NUMBER OF SEQUENCES: 452
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Human Genome Sciences, Inc.
 ; STREET: 9410 Key West Avenue
 ; CITY: Rockville
 ; STATE: Maryland
 ; COUNTRY: USA
 ; ZIP: 20850
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Diskette, 3.50 inch, 1.4Mb storage
 ; COMPUTER: HP Vectra 486/33
 ; OPERATING SYSTEM: MSDOS version 6.2
 ; SOFTWARE: ASCII Text
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/961,083
 ; FILING DATE:
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER:
 ; FILING DATE:
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Brookes, A. Anders
 ; REGISTRATION NUMBER: 36,373
 ; REFERENCE/DOCKET NUMBER: PB340P2
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (301) 309-8504
 ; TELEFAX: (301) 309-8512
 ; INFORMATION FOR SEQ ID NO: 56:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 796 amino acids
 ; TYPE: amino acid
 ; STRANDEDNESS: single
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-961-083-56

Query Match 5.5%; Score 223; DB 4; Length 796;
 Best Local Similarity 19.5%; Pred. No. 5.8e-09;
 Matches 168; Conservative 116; Mismatches 279; Indels 300; Gaps 42;
 QY 30 TYPKTKQSRKGMTSNKIKPIKSKTKTNKTHKGAVGVDFPTDGFILTKDKILSKTDG 89
 Db 1 SYELGLYQARTVKENNRVSYIDGQATOKT-ENLTPEVSKREG--INAEQIVIKITDQG 57
 QY 90 IVVDHGHSHFIYADLKGSPFEYLIIPKASLAKPAVAQRAASQGTSKVADPHHHEFN 149
 Db 58 YVTSHGDHYHY-----YNGKVPYDAIISELL-----MKDP--NYKLLKD 94

[illegible]

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SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/961,083
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB340P2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
INFORMATION FOR SEQ ID NO: 66:
SEQUENCE CHARACTERISTICS:
LENGTH: 763 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-961-083-66

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Query Match	5.0%;	Score 204;	DB 4;	Length 763;
Best Local Similarity	19.8%;	Pred. No. 1.6e-07;		
Matches 171;	Conservative 125;	Mismatches 314;	Indels 254;	Gaps 43;

[illegible]

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QY      624 AEG-----NOIKS-----LVKDKQGSL-----TFLDVTGNQL    651
          ||| |::|||
Db      584 AKGAEALYNRYKAAKKVPLDRMPYNLQTYVEVKNGLIIPHYDHYHNKKFEWFD-----        637
QY      652 TSLGV----NFTALDILSVSKNQLTVNLSKPNTVTNIDISHNNISLADLKINEQHI    707
          ||| |::||| |::| |::| |::| |::| |::|
Db      638 ---EGLYEAPKGYTLEDLLATVKYYVEHPN-ERPHS-----DNFGNAS-----DHV    680
QY      708 PEAIANKPPAYVEGSMVGNGT--AAEKAMATKAKESAOEASESHD--YNNHNTYEDEE    762
          ||| |::| |::| |::| |::| |::| |::|
Db      681 QR--NKN-----GQADTNQTEKPSSEKPKQTEKPEEETPREKKPQSEKPSKPTEEPEE    732
QY      763 GHAHEHRDKDDHDHEDEDENEAKD    786
Db      733 SPEESEEPQVETEKEVKEKLREAE    756

RESULT      5
US-09-131-648-2
; Sequence 2, Application US/09131648
; Patent No. 6168920
; GENERAL INFORMATION:
; APPLICANT: Hillman, Jennifer L.
; APPLICANT: Yue, Henry
; APPLICANT: Corley, Neil C.
; APPLICANT: Guegler, Karl J.
; APPLICANT: Paterson, Chandra
; TITLE OF INVENTION: EXTRACELLULAR ADHESIVE PROTEINS
; FILE REFERENCE: PF-0576 US
; CURRENT APPLICATION NUMBER: US/09/131,648
; CURRENT FILING DATE: 1998-08-10
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PERL Program
; SEQ ID NO 2
; LENGTH: 708
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE: -
; OTHER INFORMATION: 2687731
US-09-131-648-2
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Query Match          4.1%; Score 168; DB 4; Length 708;
Best Local Similarity 21.7%; Pred. No. 8.6e-05;
Matches 113; Conservative 80; Mismatches 158; Indels 170; Gaps 24;

QY 380 TPFPSNEKDPNMKEMLATVIKIDLSGRKDP-----LQKGLSLPNLETL 425
      ||| : : : || : : : || | ||| || : |
Db 88 TDFPVNLGTGLDSQNNLSSVTNNIV--KKMPQLLSVYLEENKLTLEPEKCLSELNLQEL 145
      ||| : : : || : : : || | ||| || : |

QY 426 GIGFTPIKDISPVLQFKKLLKOL-----MTKTGVTDYRFLDNMPQLEGIDISQN--NLK 477
      | : ||| | | | | | : : : | : ||| | : |
Db 146 YINHNLLSTISPG-AFIGLHNLRRLHLSNRLOMINSKWFADALPNLEILMIGENPIIRIK 204
      ||| : ||| | | | | | : : : | : ||| | : |

QY 478 DISFLSKYKNLTVAADN-----GIEDIR-----PLGQLPNLKE 512
      || : || | | : : || : : : | : |||
Db 205 DMNFKPLINLRSLVIAGINLTETIPDNALVGLLENLESISFYDNRLIKVPHVALQKVNLKE 264
      || : || | | | | | : : || : : : | : |||

QY 513 LVLSNNKISDL--SPLASHQQLHIDNNQ--ITDLSPVSHKESLTVDLSRNADVLD 567
      | | : | : : : : ||| || : | | : : : | :
Db 265 LDLNKNPINRIRRGDFSNNMLKELGINNMPELISIDSLAVDNLPDLRKIEATNNPRLSY 324
      ||| : ||| : : : ||| || : | | : : : | :

QY 568 ----ATLQAPKLETLMVNDTKVSHL--DFLKNPNLSSLSL-----NRA 605
      | : ||| ||| : | : : ||| || : |
Db 325 IHPNAFRLPKLESMLNSNALSALLYHTIESLPNLKEIHSNPICRDCVIRMMNMNKT 384
      ||| : ||| ||| : | : : ||| || : |

QY 606 QLQSL-----GIEASSVI--V 620
      : : | : : : : : : : : : : : : :
Db 385 NIREMEPDSLFCVDPPEFGQGNVROVHFRDMMEICPLIAPESFPNLNVEAGSYVSFHC 444
      : : | : : : : : : : : : : : : :

QY 621 RVEAE-----GNOIKSLVLKDK-----QGSITFLDVTGNQLTSLEG-----VN 658
      | || : : : | || : : ||| : : |||
Db 445 PATAEPQPEIYWTTPSGOKLLPNTLTDKFYVHSEGT--LDING--VTPEKGGLYTCIAT 499
      ||| : : : | || : : ||| : : |||

```

```
QY      659  NETA LDILSVSKNOLTNVNLSKPKNTVTYNIDISHNNISLADKLNEQHIIPEAIAKNPRAV 718
          | : | | : | : | : | : | : | : | : | : | : | : | : | : | : |
Db      500  NLVGADLRKV---MIKVDGSFPQDNGSL-----NIKIRDIQAN-----SVLSWKRA- 543
          | : | | : | : | : | : | : | : | : | : | : | : | : | : | : |

QY      719  YEGSMVGNGTAEERKAAMATKAKESAQEA---SESHDYNNHH 756
          | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
Db      544  --SSKILKSSVKWTAFVKTENSHAASARIPSDVKVYNLTTH 582
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1  RESULT      6
2  US-09-353-585-2
3  ; Sequence 2, Application US/09353585
4  ; Patent No. 6287865
5  ;
6  GENERAL INFORMATION:
7  ;
8  APPLICANT: Dixon, Mark S
9  ;
10 Jones, David A
11 ;
12 Jones, Jonathan DG
13 ;
14 TITLE OF INVENTION: Plant pathogen resistance genes and uses
15 ;
16 thereof
17 ;
18 NUMBER OF SEQUENCES: 15
19 ;
20 CORRESPONDENCE ADDRESS:
21 ;
22 ADDRESSEE: Nixon & Vanderhye PC
23 ;
24 STREET: 8th Floor, 1100 No. 6287865th Glebe Road
25 ;
26 CITY: Arlington
27 ;
28 STATE: Virginia
29 ;
30 COUNTRY: United States of America
31 ;
32 ZIP: 22201-4714
33 ;
34 COMPUTER READABLE FORM:
35 ;
36 MEDIUM TYPE: Floppy disk
37 ;
38 COMPUTER: IBM PC compatible
39 ;
40 OPERATING SYSTEM: PC-DOS/MS-DOS
41 ;
42 SOFTWARE: Patentin Release #1.0, Version #1.25 (EPO)
43 ;
44 CURRENT APPLICATION DATA:
45 ;
46 APPLICATION NUMBER: US/09/353,585
47 ;
48 FILING DATE: 15-Jul-1999
49 ;
50 CLASSIFICATION: C12N 15/29, 15/82, A01H 5/00, A01N 65/00, C12Q
51 ;
52 1/68
53 ;
54 PRIOR APPLICATION DATA:
55 ;
56 APPLICATION NUMBER: US 08/930,277
57 ;
58 FILING DATE: 27-OCT-1997
59 ;
60 APPLICATION NUMBER: PCT/GB96/00785
61 ;
62 FILING DATE: 01-APR-1996
63 ;
64 APPLICATION NUMBER: GB 9506658.5
65 ;
66 FILING DATE: 31-MAR-1995
67 ;
68 ATTORNEY/AGENT INFORMATION:
69 ;
70 NAME: Ms Mary J Wilson
71 ;
72 REGISTRATION NUMBER: 32,955
73 ;
74 REFERENCE/DOCKET NUMBER: 620-69
75 ;
76 TELECOMMUNICATION INFORMATION:
77 ;
78 TELEPHONE: (703) 816-4000
79 ;
80 TELEFAX: (703) 816-4100
81 ;
82 INFORMATION FOR SEQ ID NO: 2:
83 ;
84 SEQUENCE CHARACTERISTICS:
85 ;
86 LENGTH: 1112 amino acids
87 ;
88 TYPE: amino acid
89 ;
90 STRANDEDNESS: <Unknown>
91 ;
92 TOPOLOGY: linear
93 ;
94 MOLECULE TYPE: protein
95 ;
96 HYPOTHETICAL: YES
97 ;
98 ORIGINAL SOURCE:
99 ;
100 ORGANISM: Tomato
101 ;
102 STRAIN: Cf2
103 ;
104 SEQUENCE DESCRIPTION: SEQ ID NO: 2:
105 ;
106 US-09-353-585-2

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Query Match	4.1%;	Score 167;	DB 4;	Length 1112;
Best Local Similarity	24.3%;	Pred. No. 0.0002;		
Matches 104;	Conservative 49;	Mismatches 141;	Indels 134;	Gaps 20;
QY 396	LATVIKLDLGSRKDPLOQRKG-----LSLLPNLETLGI-----GFTPIKDISPVLQFKKL 444			
	:: :	:	:: :	:


```
Db 118 LTNLVYLDLNNN---QISGTPPQIGLAKLQIRIFHNQNGFIP-KEIG-----YL 166
QY 445 KQIMTKGTVDYRFLDNMPQLEGIDISQNNLKDISFLSKYKN-----LT 489
Db 167 RSLTKLSLGI---NFLSG-----SIPASVGNLNLSFLYLYNNQSGSIPPEISYLSRLT 218
QY 490 LVAAADNGIEDIRP--LGQLPNLKFVLSNNKIS-----DLS----- 524
Db 219 ELDLSDNALNGSIPASLGNMNNLSFLYGNQSGSIPPEICVLRSLTYLDLSENALNGS 278
QY 525 ---PLASLHQLQELHIDNNQITDLSF--VSHKESLTVVDLSRNA-----DVLATLQAPK 574
Db 279 IPASLGNLNNLSFLYGNQSGSIPPEIGYLRSLNVLGLSENALNGSIPASLGNLKNLS 338
QY 575 LETLMVNDTKVSHLDLKNPNLSSL-----SINRAQLQSLGIEASSV 618
Db 339 RLNLVNNQSGSIPASLGNLNNLSMLYLYNNQSGSIPASLGNLNNLSMLYLYNNQSGS 398
QY 619 IVRVEAEGNQIKSLVLDKQ-----GSLTFLDVTGNQITSL--EGVNNFTALD 664
Db 399 IPASLGNLNNLSRLYLYNNQSGSIPPEIGYLSLTYLDLNNNSINGFIPASFGNMSNLA 458
QY 665 ILSVSKNQLTNVNLSPN---KVTNIDISH-----NNISLADLKLINE- 704
Db 459 FLFLYENQLAS---SVPEEIGYLRSLNVLGLSENALNGSIPASFGNMLNLSRLNLVNNQ 515
QY 705 -QHPEAI 711
Db 516 SGSIPEEI 523

RESULT 7
US-09-353-585-3
; Sequence 3, Application US/09353585
; Patent No. 6287865
; GENERAL INFORMATION:
; APPLICANT: Dixon, Mark S
; Jones, David A
; Jones, Jonathan DG
; TITLE OF INVENTION: Plant pathogen resistance genes and uses
; thereof
; NUMBER OF SEQUENCES: 15
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: Nixon & Vanderhye PC
; STREET: 8th Floor, 1100 No. 6287865th Glebe Road
; CITY: Arlington
; STATE: Virginia
; COUNTRY: United States of America
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/353,585
; FILING DATE: 15-Jul-1999
; CLASSIFICATION: C12N 15/29, 15/82, A01H 5/00, A01N 65/00, C12Q
; 1/68
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/930,277
; FILING DATE: 27-OCT-1997
; APPLICATION NUMBER: PCT/GB96/00785
; FILING DATE: 01-APR-1996
; APPLICATION NUMBER: GB 9506658.5
; FILING DATE: 31-MAR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Ms Mary J Wilson
; REGISTRATION NUMBER: 32,955
; REFERENCE/DOCKET NUMBER: 620-69
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 816-4000
; TELEFAX: (703) 816-4100
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; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1112 amino acids
; TYPE: amino acid
; STRANDEDNESS: <Unknown>
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHEICAL: YES
; ORIGINAL SOURCE:
; ORGANISM: Tomato
; STRAIN: Cf2
; SEQUENCE DESCRIPTION: SEQ ID NO: 3:
US-09-353-585-3

Query Match 4.1%; Score 167; DB 4; Length 1112;
Best Local Similarity 24.3%; Pred. NO. 0.0002;
Matches 104; Conservative 49; Mismatches 141; Indels 134; Gaps 20;

QY 396 LATVIKLDGSRKDPLOKRG-----LSLPNLETLGI-----GFTPIKDISFVLQFKKL 444
Db 118 LTNLVYLDLNNN---QISGTPPQIGLAKLQIRIFHNQNGFIP-KEIG-----YL 166
QY 445 KQIMTKGTVDYRFLDNMPQLEGIDISQNNLKDISFLSKYKN-----LT 489
Db 167 RSLTKLSLGI---NFLSG-----SIPASVGNLNLSFLYLYNNQSGSIPPEISYLSRLT 218
QY 490 LVAAADNGIEDIRP--LGQLPNLKFVLSNNKIS-----DLS----- 524
Db 219 ELDLSDNALNGSIPASLGNMNNLSFLYGNQSGSIPPEICVLRSLTYLDLSENALNGS 278
QY 525 ---PLASLHQLQELHIDNNQITDLSF--VSHKESLTVVDLSRNA-----DVLATLQAPK 574
Db 279 IPASLGNLNNLSFLYGNQSGSIPPEIGYLRSLNVLGLSENALNGSIPASLGNLKNLS 338
QY 575 LETLMVNDTKVSHLDLKNPNLSSL-----SINRAQLQSLGIEASSV 618
Db 339 RLNLVNNQSGSIPASLGNLNNLSMLYLYNNQSGSIPASLGNLNNLSMLYLYNNQSGS 398
QY 619 IVRVEAEGNQIKSLVLDKQ-----GSLTFLDVTGNQITSL--EGVNNFTALD 664
Db 399 IPASLGNLNNLSRLYLYNNQSGSIPPEIGYLSLTYLDLNNNSINGFIPASFGNMSNLA 458
QY 665 ILSVSKNQLTNVNLSPN---KVTNIDISH-----NNISLADLKLINE- 704
Db 459 FLFLYENQLAS---SVPEEIGYLRSLNVLGLSENALNGSIPASFGNMLNLSRLNLVNNQ 515
QY 705 -QHPEAI 711
Db 516 SGSIPEEI 523

RESULT 8
US-09-180-439-3
; Sequence 3, Application US/09180439
; Patent No. 6225532
; GENERAL INFORMATION:
; APPLICANT: Dixon, Mark S
; Hatzixanthis, Kostas
; APPLICANT: Jones, David A
; APPLICANT: Jones, Jonathan DG
; TITLE OF INVENTION: Plant pathogen resistance genes and uses thereof
; FILE REFERENCE: 620 - 53
; CURRENT APPLICATION NUMBER: US/09/180,439
; EARLIER FILING DATE: 1998-12-06
; EARLIER APPLICATION NUMBER: PCT/GB97/01249
; EARLIER FILING DATE: 1997-05-08
; EARLIER APPLICATION NUMBER: GB 9609681.3
; EARLIER FILING DATE: 1996-05-09
; EARLIER APPLICATION NUMBER: GB 9619924.5
; EARLIER FILING DATE: 1996-09-24
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: PatentIn Ver. 2.0
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; SEQ ID NO 3
;
; LENGTH: 968
;
; TYPE: PR1
;
; ORGANISM: Lycopersicon esculentum
;
US-09-180-439-3

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Query Match	3.98;	Score 160;	DB 4;	Length 968;
Best Local Similarity	21.38;	Pred. No. 0.00057;		
Matches 119;	Conservative 88;	Mismatches 204;	Indels 148;	Gaps 26;

[illegible]

```

RESULT          9
US-09-180-439-4
: Sequence 4, Application US/09180439
: Patent No. 6225532
: GENERAL INFORMATION:
:   APPLICANT: Dixon, Mark S
:   APPLICANT: Hatzixanthis, Kostas
:   APPLICANT: Jones, David A
:   APPLICANT: Jones, Jonathan DG
:   TITLE OF INVENTION: Plant pathogen resistance genes and uses thereof
:   FILE REFERENCE: 620 - 53
:   CURRENT APPLICATION NUMBER: US/09/180,439
:   CURRENT FILING DATE: 1998-12-06
:   EARLIER APPLICATION NUMBER: PCT/GB97/01249
:   EARLIER FILING DATE: 1997-05-08
:   EARLIER APPLICATION NUMBER: GB 9609661.3
:   EARLIER FILING DATE: 1996-05-09
:   EARLIER APPLICATION NUMBER: GB 9619924.5
:   EARLIER FILING DATE: 1996-09-24
:   NUMBER OF SEQ ID NOS: 10
: SOFTWARE: PatentIn Ver. 2.0

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; SEQ ID NO 4
;
; LENGTH: 968
;
; TYPE: PRT
;
; ORGANISM: Lycopersicon esculentum
;
US-09-180-439-4

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Query Match 3.9%; Score 160; DB 4; Length 968;
Best Local Similarity 21.3%; Pred. No. 0.00057;
Matches 119; Conservative 88; Mismatches 204; Indels 148; Gaps 26;

[illegible]

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RESULT 10
US-09-180-439-6
; Sequence 6, Application US/09180439
; Patent No. 6225532
; GENERAL INFORMATION:
; APPLICANT: Dixon, Mark S
; APPLICANT: Hatzixanthis, Kostas
; APPLICANT: Jones, David A
; APPLICANT: Jones, Jonathan DG
; TITLE OF INVENTION: Plant pathogen resistance genes and uses thereof
; FILE REFERENCE: 620 - 53
; CURRENT APPLICATION NUMBER: US/09/180,439
; CURRENT FILING DATE: 1998-12-06
; EARLIER APPLICATION NUMBER: PCT/GB97/01249
; EARLIER FILING DATE: 1997-05-08
; EARLIER APPLICATION NUMBER: GB 9609681.3
; EARLIER FILING DATE: 1996-05-09
; EARLIER APPLICATION NUMBER: GB 9619924.5
; EARLIER FILING DATE: 1996-09-24
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: PatentIn Ver. 2.0

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GenCore version 4.5
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OM protein - protein search, using sw model

Run on: December 3, 2001, 07:22:19 ; Search time 370.05 Seconds
(without alignments)
594.256 Million cell updates/sec

Title: US-09-645-835A-4
Perfect score: 4080
Sequence: 1 MKTKKVIILVGLLSQLTL.....DHDHEHEDENAKDEQNHAD 792

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 3148936 seqs, 277657034 residues

Total number of hits satisfying chosen parameters: 3148936

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Pending_Patents_AA_Main:*

1: /cgn2_6/ptodata/2/paa/PCRTUS_COMB.pep:*
2: /cgn2_6/ptodata/2/paa/US06_COMB.pep:*
3: /cgn2_6/ptodata/2/paa/US07_COMB.pep:*
4: /cgn2_6/ptodata/2/paa/US08_COMB.pep:*
5: /cgn2_6/ptodata/2/paa/US081_COMB.pep:*
6: /cgn2_6/ptodata/2/paa/US082_COMB.pep:*
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11: /cgn2_6/ptodata/2/paa/US087_COMB.pep:*
12: /cgn2_6/ptodata/2/paa/US088_COMB.pep:*
13: /cgn2_6/ptodata/2/paa/US089_COMB.pep:*
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20: /cgn2_6/ptodata/2/paa/US096_COMB.pep:*
21: /cgn2_6/ptodata/2/paa/US097_COMB.pep:*
22: /cgn2_6/ptodata/2/paa/US098_COMB.pep:*
23: /cgn2_6/ptodata/2/paa/US099_COMB.pep:*
24: /cgn2_6/ptodata/2/paa/US60_COMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	4080	100.0	792	1 PCT-US00-23417-4	Sequence 4, Appli
2	4080	100.0	792	20 US-09-645-835A-4	Sequence 4, Appli
3	4080	100.0	792	20 US-09-645-835A-4	Sequence 4, Appli
4	322.5	7.9	746	6 US-08-293-246-2	Sequence 2, Appli
5	297.5	7.3	1019	18 US-09-471-255-86	Sequence 86, Appli
6	293.5	7.2	1019	18 US-09-471-255-85	Sequence 85, Appli
7	292.5	7.2	1019	18 US-09-471-255-55	Sequence 55, Appli
8	292.5	7.2	1019	18 US-09-471-255-84	Sequence 84, Appli
9	292.5	7.2	1019	18 US-09-471-255-87	Sequence 87, Appli

10	292.5	7.2	1019	18 US-09-471-255-88	Sequence 88, Appli
11	292.5	7.2	1019	18 US-09-471-255-89	Sequence 89, Appli
12	292.5	7.2	1039	18 US-09-471-255-2	Sequence 2, Appli
13	292.5	7.2	1039	19 US-09-583-110-5226	Sequence 5226, Ap
14	287	7.0	780	18 US-09-471-255-78	Sequence 78, Appli
15	248.5	6.1	509	18 US-09-471-255-56	Sequence 56, Appli
16	248.5	6.1	509	18 US-09-471-255-57	Sequence 57, Appli
17	248	6.1	732	15 US-09-134-000-6359	Sequence 6359, Ap
18	243.5	6.0	345	24 US-60-316-362-3396	Sequence 3396, Ap
19	243.5	6.0	824	18 US-09-471-255-83	Sequence 83, Appli
20	241	5.9	715	16 US-09-252-088-16	Sequence 16, Appli
21	241	5.9	715	16 US-09-252-088B-16	Sequence 16, Appli
22	241	5.9	793	16 US-09-252-088-15	Sequence 15, Appli
23	241	5.9	793	16 US-09-252-088B-15	Sequence 15, Appli
24	241	5.9	823	18 US-09-471-255-81	Sequence 81, Appli
25	238.5	5.8	825	1 PCT-US00-23417-2	Sequence 2, Appli
26	238.5	5.8	825	20 US-09-645-835-2	Sequence 2, Appli
27	238.5	5.8	825	20 US-09-645-835A-2	Sequence 2, Appli
28	235	5.8	484	18 US-09-468-656-6	Sequence 6, Appli
29	235	5.8	484	18 US-09-471-255-8	Sequence 8, Appli
30	234.5	5.7	816	18 US-09-471-255-92	Sequence 92, Appli
31	233	5.7	447	19 US-09-536-784-182	Sequence 182, App
32	233	5.7	447	21 US-09-765-271-182	Sequence 182, App
33	233	5.7	447	21 US-09-765-272-182	Sequence 182, App
34	231	5.7	822	1 PCT-US00-23417-6	Sequence 6, Appli
35	231	5.7	822	20 US-09-645-835-6	Sequence 6, Appli
36	231	5.7	822	20 US-09-645-835A-6	Sequence 6, Appli
37	230.5	5.6	811	18 US-09-471-255-96	Sequence 96, Appli
38	230.5	5.6	811	18 US-09-471-255-98	Sequence 98, Appli
39	230	5.6	431	24 US-60-191-637-11477	Sequence 11477, A
40	230	5.6	431	24 US-60-191-681-8981	Sequence 8981, Ap
41	229.5	5.6	816	18 US-09-471-255-93	Sequence 93, Appli
42	229	5.6	829	19 US-09-583-110-3851	Sequence 3851, Ap
43	228.5	5.6	811	18 US-09-471-255-97	Sequence 97, Appli
44	227.5	5.6	816	18 US-09-471-255-94	Sequence 94, Appli
45	226.5	5.6	834	18 US-09-471-255-95	Sequence 95, Appli

ALIGNMENTS

RESULT 1
PCT-US00-23417-4
Sequence 4, Application PC/TUS0023417
GENERAL INFORMATION:
APPLICANT: Heinrichs, Jon
APPLICANT: Johnson, Leslie S.
APPLICANT: Koenig, Scott
APPLICANT: Adamou, John E.
TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
FILE REFERENCE: 469201-402
CURRENT APPLICATION NUMBER: PCT/US00/23417
CURRENT FILING DATE: 2000-08-25
PRIOR APPLICATION NUMBER: U.S. 60/150,750
PRIOR FILING DATE: 1999-08-25
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 4
LENGTH: 792
TYPE: PRT
ORGANISM: Streptococcus pyogenes
PCT-US00-23417-4

QY	1	100.0%;	Score 4080;	DB 1;	Length 792;
Db	1	Best Local Similarity	100.0%;	Pred. No. 0;	
		Matches 792;	Conservative 0;	Mismatches 0;	Indels 0;
					Gaps 0;

QY 61 KGVAGVDFPTDDGFIITKDSKILSKTDGIVVDHGHSHFIYADLKGSPEYLLIPKAS 120
Db 61 KGVAGVDFPTDDGFIITKDSKILSKTDGIVVDHGHSHFIYADLKGSPEYLLIPKAS 120
QY 121 LAKPAVAQRAASQGTSTKVADPHHHYEFNPADIYAEDALGYTVRHHDFHYILKSSLSGQT 180
Db 121 LAKPAVAQRAASQGTSTKVADPHHHYEFNPADIYAEDALGYTVRHHDFHYILKSSLSGQT 180
QY 181 QAQAKQAVATRLPQTSSLSVSTATANGIPGLHFPSTSGFQFNGQGIYGVTKDSILVDHGH 240
Db 181 QAQAKQAVATRLPQTSSLSVSTATANGIPGLHFPSTSGFQFNGQGIYGVTKDSILVDHGH 240
QY 241 HPISFADLRQGGWAHVADQYDPAKKAEPATHTQTPELSEREKEYOEKLAYLAEKLGIDP 300
Db 241 HPISFADLRQGGWAHVADQYDPAKKAEPATHTQTPELSEREKEYOEKLAYLAEKLGIDP 300
QY 301 STIKRVETQDGKLGLEYRHHDAHVLMLSDEIGKIDIPDPAIEHARELEKHKVGMIDTLR 360
Db 301 STIKRVETQDGKLGLEYRHHDAHVLMLSDEIGKIDIPDPAIEHARELEKHKVGMIDTLR 360
QY 361 ALGFDEEVILDIVRTHDAPTPFPSPNEKDPNMKEWLATVIKLDLGSRKDPLQKGLSLP 420
Db 361 ALGFDEEVILDIVRTHDAPTPFPSPNEKDPNMKEWLATVIKLDLGSRKDPLQKGLSLP 420
QY 421 NLETLGIGFTPIKDISPVLOFKKLQOLMTKTGVTDYRFLDMPQLEGIDISQNNLKDIS 480
Db 421 NLETLGIGFTPIKDISPVLOFKKLQOLMTKTGVTDYRFLDMPQLEGIDISQNNLKDIS 480
QY 481 FLISKYKNTLVAAADNGIEDIRPLGOLPNLKFVLVSNKISDLSPLASLHQLQELHIDNN 540
Db 481 FLISKYKNTLVAAADNGIEDIRPLGOLPNLKFVLVSNKISDLSPLASLHQLQELHIDNN 540
QY 541 QITDLSPVSHKESLTVDLSRNADVLDLATLOAPKLETLMVNDTKVSHLDLKNPNLSSL 600
Db 541 QITDLSPVSHKESLTVDLSRNADVLDLATLOAPKLETLMVNDTKVSHLDLKNPNLSSL 600
QY 601 SINRAQLOSLEGIEASSVYRVEAEGNOIKSLVKDKQGSITFLDVTGNQLTSLGVNPF 660
Db 601 SINRAQLOSLEGIEASSVYRVEAEGNOIKSLVKDKQGSITFLDVTGNQLTSLGVNPF 660
QY 661 TALDILSVSKNQLTNVNLSPKNTVTNIDISHNNISLADLKLEQHIPEAIKPNPAAVE 720
Db 661 TALDILSVSKNQLTNVNLSPKNTVTNIDISHNNISLADLKLEQHIPEAIKPNPAAVE 720
QY 721 GSMVNGTAEKAMATKAKESAQEAESHSHDYNHNTYEDEEGHAHEHRKDDHDEHED 780
Db 721 GSMVNGTAEKAMATKAKESAQEAESHSHDYNHNTYEDEEGHAHEHRKDDHDEHED 780
QY 781 ENEAKDEQNHAD 792
Db 781 ENEAKDEQNHAD 792

RESULT 2
US-09-645-835-4
; Sequence 4, Application US/09645835
; GENERAL INFORMATION:
; APPLICANT: Heinrichs, Jon
; APPLICANT: Johnson, Leslie S.
; APPLICANT: Koenig, Scott
; APPLICANT: Adamou, John E.
; TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
; FILE REFERENCE: 469201-402
; CURRENT APPLICATION NUMBER: US/09/645,835
; PRIOR FILING DATE: 2000-08-25
; PRIOR APPLICATION NUMBER: U.S. 60/150,750
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 792
; TYPE: PRG

ORGANISM: Streptococcus pyogenes
US-09-645-835-4

Query Match 100.0%; Score 4080; DB 20; Length 792;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 792; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MKTKVILVGLSSQLTLIACQSRNGTYPITKQSRKGMTSNKIKPIKSKTKNTH 60
Db 1 MKTKVILVGLSSQLTLIACQSRNGTYPITKQSRKGMTSNKIKPIKSKTKNTH 60
QY 61 KGVAGVDFPTDDGFIITKDSKILSKTDGIVVDHGHSHFIYADLKGSPEYLLIPKAS 120
Db 61 KGVAGVDFPTDDGFIITKDSKILSKTDGIVVDHGHSHFIYADLKGSPEYLLIPKAS 120
QY 121 LAKPAVAQRAASQGTSTKVADPHHHYEFNPADIYAEDALGYTVRHHDFHYILKSSLSGQT 180
Db 121 LAKPAVAQRAASQGTSTKVADPHHHYEFNPADIYAEDALGYTVRHHDFHYILKSSLSGQT 180
QY 181 QAQAKQAVATRLPQTSSLSVSTATANGIPGLHFPSTSGFQFNGQGIYGVTKDSILVDHGH 240
Db 181 QAQAKQAVATRLPQTSSLSVSTATANGIPGLHFPSTSGFQFNGQGIYGVTKDSILVDHGH 240
QY 241 HPISFADLRQGGWAHVADQYDPAKKAEPATHTQTPELSEREKEYOEKLAYLAEKLGIDP 300
Db 241 HPISFADLRQGGWAHVADQYDPAKKAEPATHTQTPELSEREKEYOEKLAYLAEKLGIDP 300
QY 301 STIKRVETQDGKLGLEYRHHDAHVLMLSDEIGKIDIPDPAIEHARELEKHKVGMIDTLR 360
Db 301 STIKRVETQDGKLGLEYRHHDAHVLMLSDEIGKIDIPDPAIEHARELEKHKVGMIDTLR 360
QY 361 ALGFDEEVILDIVRTHDAPTPFPSPNEKDPNMKEWLATVIKLDLGSRKDPLQKGLSLP 420
Db 361 ALGFDEEVILDIVRTHDAPTPFPSPNEKDPNMKEWLATVIKLDLGSRKDPLQKGLSLP 420
QY 421 NLETLGIGFTPIKDISPVLOFKKLQOLMTKTGVTDYRFLDMPQLEGIDISQNNLKDIS 480
Db 421 NLETLGIGFTPIKDISPVLOFKKLQOLMTKTGVTDYRFLDMPQLEGIDISQNNLKDIS 480
QY 481 FLISKYKNTLVAAADNGIEDIRPLGOLPNLKFVLVSNKISDLSPLASLHQLQELHIDNN 540
Db 481 FLISKYKNTLVAAADNGIEDIRPLGOLPNLKFVLVSNKISDLSPLASLHQLQELHIDNN 540
QY 541 QITDLSPVSHKESLTVDLSRNADVLDLATLOAPKLETLMVNDTKVSHLDLKNPNLSSL 600
Db 541 QITDLSPVSHKESLTVDLSRNADVLDLATLOAPKLETLMVNDTKVSHLDLKNPNLSSL 600
QY 601 SINRAQLOSLEGIEASSVYRVEAEGNOIKSLVKDKQGSITFLDVTGNQLTSLGVNPF 660
Db 601 SINRAQLOSLEGIEASSVYRVEAEGNOIKSLVKDKQGSITFLDVTGNQLTSLGVNPF 660
QY 661 TALDILSVSKNQLTNVNLSPKNTVTNIDISHNNISLADLKLEQHIPEAIKPNPAAVE 720
Db 661 TALDILSVSKNQLTNVNLSPKNTVTNIDISHNNISLADLKLEQHIPEAIKPNPAAVE 720
QY 721 GSMVNGTAEKAMATKAKESAQEAESHSHDYNHNTYEDEEGHAHEHRKDDHDEHED 780
Db 721 GSMVNGTAEKAMATKAKESAQEAESHSHDYNHNTYEDEEGHAHEHRKDDHDEHED 780
QY 781 ENEAKDEQNHAD 792
Db 781 ENEAKDEQNHAD 792

RESULT 3
US-09-645-835A-4
; Sequence 4, Application US/09645835A
; GENERAL INFORMATION:
; APPLICANT: Heinrichs, Jon
; APPLICANT: Johnson, Leslie S.
; APPLICANT: Koenig, Scott
; APPLICANT: Adamou, John E.


```

; TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
; TITLE OF INVENTION: Vaccines
; FILE REFERENCE: 469201-493
; CURRENT APPLICATION NUMBER: US/09/645,835A
; CURRENT FILING DATE: 2000-08-25
; PRIOR APPLICATION NUMBER: U.S. 60/150,750
; PRIOR FILING DATE: 1999-08-25
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 4
; LENGTH: 792
; TYPE: PRT
; ORGANISM: Streptococcus pyogenes
; US-09-645-835A-4

Query Match      100.0%; Score 4080; DB 20; Length 792;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 792; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MKTKVILVGLLSQTLTACQSRNGTYPKTKQSRKGMTSNKIKPIKSKTKTKTH 60
DB 1 MKTKVILVGLLSQTLTACQSRNGTYPKTKQSRKGMTSNKIKPIKSKTKTKTH 60
QY 61 KGVAGVDFPTDDGFIITKDSKILSKTDQGIIVVDHDSHFIFYADLKSPFYLIPKAS 120
DB 61 KGVAGVDFPTDDGFIITKDSKILSKTDQGIIVVDHDSHFIFYADLKSPFYLIPKAS 120
QY 121 LAKPAVAQRAASQGTSTKADPHHHYEFNPADIVAEDALGYTVRHDHFFHYILKSSLSGQT 180
DB 121 LAKPAVAQRAASQGTSTKADPHHHYEFNPADIVAEDALGYTVRHDHFFHYILKSSLSGQT 180
QY 181 QAQAKQVATRLPQTSSLSVSTATANGIPGLHFTSDGFQFNGGIVGVTKDSILVDHGH 240
DB 181 QAQAKQVATRLPQTSSLSVSTATANGIPGLHFTSDGFQFNGGIVGVTKDSILVDHGH 240
QY 241 HPISFADLRQGGMAHVADQYDPAKKAKEAETHQTPELSEREKEQEKLAYLAEKLGIDP 300
DB 241 HPISFADLRQGGMAHVADQYDPAKKAKEAETHQTPELSEREKEQEKLAYLAEKLGIDP 300
QY 301 STIKRVETQDGLGLEYPHHDHVMLSDEIGKIDIPDPAIEHARELEKHKVGMDTLR 360
DB 301 STIKRVETQDGLGLEYPHHDHVMLSDEIGKIDIPDPAIEHARELEKHKVGMDTLR 360
QY 361 ALGFDEEVLIDIVRTDAPTPPSPNEKDPNMKEMLATVIKLDIGSRKDPLOKGLSLP 420
DB 361 ALGFDEEVLIDIVRTDAPTPPSPNEKDPNMKEMLATVIKLDIGSRKDPLOKGLSLP 420
QY 421 NLETIGIGFTPIKDISPVLOFKKLQKLMKTGTVDYRFLDNMPQLEGIDISQNNLKDIS 480
DB 421 NLETIGIGFTPIKDISPVLOFKKLQKLMKTGTVDYRFLDNMPQLEGIDISQNNLKDIS 480
QY 481 FLKKYKMLTLVAAADNGIEDIRPLGOLPMLKFLVLSNNKISDLSPLASLHQLQELHIDNN 540
DB 481 FLKKYKMLTLVAAADNGIEDIRPLGOLPMLKFLVLSNNKISDLSPLASLHQLQELHIDNN 540
QY 541 QITDLSPVSHKESLTVVDSRNADVDLATLQAPKLETFMWNVTKVSHLDFLKNPNLSL 600
DB 541 QITDLSPVSHKESLTVVDSRNADVDLATLQAPKLETFMWNVTKVSHLDFLKNPNLSL 600
QY 601 SINRAQOSLEGIEASSVIVRVEAEGNOIKSLVLKDKQGSITFLDVTGNQSTLEGVNNF 660
DB 601 SINRAQOSLEGIEASSVIVRVEAEGNOIKSLVLKDKQGSITFLDVTGNQSTLEGVNNF 660
QY 661 TALDILSVSKNOLTNVNLSPKNTVTNIDISHNNISLADLKINEQHIPEAIKNEPVAVE 720
DB 661 TALDILSVSKNOLTNVNLSPKNTVTNIDISHNNISLADLKINEQHIPEAIKNEPVAVE 720
QY 721 GSMVNGTAEKAAAMATKAKESAQEAESHDYNNHTYEDDEGHAHEHRDKDDHDEHED 780
DB 721 GSMVNGTAEKAAAMATKAKESAQEAESHDYNNHTYEDDEGHAHEHRDKDDHDEHED 780
QY 781 ENEAKDEQNHAD 792
```

DB 781 ENEAKDEQNHAD 792

RESULT 4

US-08-293-246-2

Sequence 2, Application US/08293246

GENERAL INFORMATION:

APPLICANT: Campbell, Priscilla

APPLICANT: Potter, Terry

APPLICANT: Sawyer, Richard

APPLICANT: Drevets, Douglas

APPLICANT: Freed, John

TITLE OF INVENTION: INTERNALIN PRODUCTS AND PROCESSES

NUMBER OF SEQUENCES: 6

CORRESPONDENCE ADDRESS:

ADDRESSEE: Sheridan Ross & McIntosh

STREET: 1700 Lincoln Street, 35th Floor

CITY: Denver

STATE: Colorado

COUNTRY: U.S.A.

ZIP: 80203

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent In Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/293,246

FILING DATE:

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: Kovarik, Joseph E.

REGISTRATION NUMBER: 33,005

REFERENCE/DOCKET NUMBER: 2879-11

TELECOMMUNICATION INFORMATION:

TELEPHONE: 303/863-9700

TELEFAX: 303/863-0223

INFORMATION FOR SEQ ID NO: 2:

SEQUENCE CHARACTERISTICS:

LENGTH: 746 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-293-246-2

Query Match 7.9%; Score 322.5; DB 6; Length 746;
Best Local Similarity 30.6%; Pred. No. 2.2e-15;
Matches 92; Conservative 66; Mismatches 136; Indels 7; Gaps 4;

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QY 399 VIKLDGSRK--DPIQRKGLSLPNIETLGIGFTPIKDISPVLOFKKLQKLMKTGTVD 456
DB 2 IIKTVLGKTNVTDIYSQTDLDQVTTLQADRLG--IKSIDLEYLNLTQINFSNNQITD 58
QY 457 YRFLDNMPQLEGIDISQNNLKDISFLSKYKMLTLVAAADNGIEDIRPLGOLPMLKFLVLS 516
DB 59 ITPKDLTKLVDIIMNNQIADITPLANLTNLTGLTFNNQITDIDPLKNTLNRLSLS 118
QY 517 NNTISDLSPLASLHQLQELHIDNNQITDLSPVSHKESLTVVDSRNADVDLATL-QAPKL 575
DB 119 SNTISDISALSGTLNQLQSLF-GNQVTDLKPPLANLTLLERLDISSNKVSDISVLAKLTNL 177
QY 576 ETLMVNDTKVSHLDFLKNPNLSLSINRAQOSLEGIEASSVIVRVEAEGNOIKSLVLK 635
DB 178 ESLIATNNQISDITPLGILTINDELSLNGNQLKDIGTLASLTNLTDDLANNOISNLAPL 237
QY 636 DKQSLTFLDVYTGNTLSLEGVNNFTALDILSVSKNOLTNVNLSPKNTVTNIDISHNNI 695
DB 238 SGLTKLTTELKGANQISNISPLAGLTALTNLLENQLEDISPISNLKNTLYTLTYFNNI 297
QY 696 S 696
```

Db 298 S 298

RESULT 5

US-09-471-255-86

Sequence 86, Application US/09471255

GENERAL INFORMATION:

APPLICANT: BIOCHEM PHARMA INC.

APPLICANT: HAMEL, Jos,e

APPLICANT: BRODEUR, Bernard R.

APPLICANT: PINEAU, Isabelle

APPLICANT: MARTIN, Denis

APPLICANT: RIOUX, Cl,ment

TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS

FILE REFERENCE: 12806-11PCT

CURRENT FILING DATE: 1999-12-23

PRIOR APPLICATION NUMBER: US 60/113,800

NUMBER OF SEQ ID NOS: 102

SOFTWARE: FastSeq for Windows Version 3.0

SEQ ID NO 86

LENGTH: 1019

TYPE: PRT

ORGANISM: S. pneumoniae

US-09-471-255-86

Query Match 7.3%; Score 297.5; DB 18; Length 1019;
Best Local Similarity 21.5%; Pred. No. 3.2e-13;
Matches 185; Conservative 114; Mismatches 286; Indels 277; Gaps 44;

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QY 16 SQTLLACQSRGNGTYPIKTKOSRKGMTSNKIKPKSKTKNTKHKVAGVDEPT----- 70
Db 217 SQTSSYSTASDNN-----TQSAKGSTS---KPAKSENLOSLEL--YDSPAQRYS 265
QY 71 -DDGFILTKDSKILSKTDGIVVDHGHSHFIYADLKG--SPFEYLIP---KGA--- 121
Db 266 ESDGLVF-DPAKISRTPNGVAIPHGDHYHFIYPSKLSALEKIAKRVPISGTSTVS 324
QY 122 AKP-----AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDHFIYL 172
Db 325 AKPNEVSSLSGLSSNPSSLTSTKELSSASDGYIFNPKDIVEETATAYIVRHGDHFIY 384
QY 173 KSSLSGQTQAQAKQVATRLPQTSLSVSTATANGIPGLHPTSDGFQNGQIVGVTKDSI 232
Db 385 KSNQIGQPTLPNNSLAT--PSPSLPINPGTSH---EKHEEDGYGFDANRIIAEDSGF 437
QY 233 LVDHGHLPISFADLRQGGWAHVADQYDPAKKAEPKPAETHQT----- 275
Db 438 VMSHGDHNNHFFKKDLTE-----EQIKAAQKHLEEVKTSNGLSLSHEDQDPS 487
QY 276 --PELSEREKEYOEKLAFLAEKLGIDPSTIKRVETODGKLGLEYRPHHDHAYLMLSDIEI 333
Db 488 NAKEMKDLDKKIEEKIAGIMKQYGVKRESI--VVKKEKNALIIYPHGDH----- 533
QY 334 GKDIIPDHAIEHARELEKHK-VGMDTLRALGFDEEVLIDIVRTHDAPTPPSNE---KD 388
Db 534 -----HHADPIDEHKPVG-----IGHSHSNYELFKPEEGVAKKE 567
QY 389 PNMM--KEWLATVIKLDIGSRKDPQKGLSLPNELETIGFTPIKDISPVLQFKKLKQ 446
Db 568 GNKYVTGEELTNVNL---LKNSTFNQNFPLANGQKRVSFSPPELE-----KKLGI 617
QY 447 LMTKTGVTDYRFLD-----NMPQLEG---IDISQNNLKDISFLS 483
Db 618 NMLVKLITPDGKVLKRVSGKVFGEVGNIANFELDQYLPQGTFRKTYTIAASKDYPEVSYDG 677
QY 484 KYKNLTLLVA-----AADNGIEDIRPLGOLP-NLKFIV-----ISNN 518
Db 678 TETVPTSLAYKMAQOTIFYRPHAGDTYLR-VNPOFAVPKGTDLVRVDFEFGHNAVLENN 736
QY 519 -KASDLS-PLASLHQ-----LQELHIDNNO--ITDLSVSHKESLTVVDLS 560
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Db 737 YKVEIKLPIPKLNQGTTRTAGNKIPVTMANAYLDNQSTYIVEV-PILEKENGT----- 790

QY 561 RNADVDLATLQAPKLETLMVNDTKVSHLDLFKNPNLSUSINRAQLOSTEGTEASSVIV 620

Db 791 -----DKPSILPQFKRKNKAQENLKLID-----EKVEEPTSE 821

QY 621 RVEAE-----GNQIKSLVLKD-----KQSLTFLDVTG---NQLTSLGNNFTALD 664

Db 822 KVEKEKLESTGNSTNSNLTLEEVPTVDPVQEKVAKFAESYGMKLENLFLNMDG----- 873

QY 665 ILSVSKNQLTNVNLSPKNTVTNIDISHNNISLADKLNEQHIPEAIKNEPAVEGSMV 724

Db 874 -----TIELYPSGEV---IKKN---MADE---TGEAPQNGENKPS--ENGKV 911

QY 725 GNGTAEKKAAMATKAKESAQEA 746

Db 912 STGIVENOPT-ENKPADSLPEA 932

RESULT 6

US-09-471-255-85

Sequence 85, Application US/09471255

GENERAL INFORMATION:

APPLICANT: BIOCHEM PHARMA INC.

APPLICANT: HAMEL, Jos,e

APPLICANT: BRODEUR, Bernard R.

APPLICANT: PINEAU, Isabelle

APPLICANT: MARTIN, Denis

APPLICANT: RIOUX, Cl,ment

TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS

FILE REFERENCE: 12806-11PCT

CURRENT FILING DATE: 1999-12-23

PRIOR APPLICATION NUMBER: US 60/113,800

NUMBER OF SEQ ID NOS: 102

SOFTWARE: FastSeq for Windows Version 3.0

SEQ ID NO 85

LENGTH: 1019

TYPE: PRT

ORGANISM: S. pneumoniae

US-09-471-255-85

Query Match 7.2%; Score 293.5; DB 18; Length 1019;
Best Local Similarity 21.6%; Pred. No. 6.5e-13;
Matches 188; Conservative 112; Mismatches 278; Indels 291; Gaps 46;

```
QY 16 SQTLLACQSRGNGTYPIKTKOSRKGMTSNKIKPKSKTKNTKHKVAGVDEPT----- 70
Db 217 SQTSSYSTASDNN-----TQSAKGSTS---KPAKSENLOSLEL--YDSPAQRYS 265
QY 71 -DDGFILTKDSKILSKTDGIVVDHGHSHFIYADLKGSPFEYLIPK-----GASL- 121
Db 266 ESDGLVF-DPAKISRTPNGVAIPHGDHYHFIYPSKLSALEKIAKRVPISGTSTVS 322
QY 122 --AKP-----AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDHFIYL 170
Db 323 TNAPKNEVSSLSGLSSNPSSLTSTKELSSASDGYIFNPKDIVEETATAYIVRHGDHFIY 382
QY 171 ILKSSLSGQTQAQAKQVATRLPQTSLSVSTATANGIPGLHFP--TSDGFQNGQIVGV 228
Db 383 IPKSNQIGQPTLPNNSLAT--PSPSLPIN-----PGISHEKHEEDGYGFDANRIIAED 433
QY 229 KDSILVDHGHLPISFADLRQGGWAHVADQYDPAKKAEPKPAETHQT----- 275
Db 434 ESGFIMSHGNHNNHFFKKDLTE-----EQIKAAQKHLEEVKTSNGLSLSHEDQ 483
QY 276 -----PELSEREKEYOEKLAFLAEKLGIDPSTIKRVETODGKLGLEYRPHHDHAYLML 329
Db 484 DYPNAKEMKDLDKKIEEKIAGIMKQYGVKRESI--VVKKEKNALIIYPHGDH----- 533
```

```
QY 330 DIEIGKDIPDPAIEHARELEKHK-VGMDTLRALGFDEEVLIDIVRTHDAPTPPSPNE-- 386
Db 534 -----HHADPIDEHKPVG-----IGHSHSNYELFKPEEGV 563
QY 387 --KDPNMM--KEWLATVIKLDIGSRKDPLOQRKGLSLPLNLETIGFTPIKDISPVLQFK 442
Db 564 AKKEGNKVYTGEEELTVNVL---LKNSTFNQNFNLTANGOKRVSFSPPELE-----K 613
QY 443 KLQOLMTKTGVTDYRFLD-----NMPQLEG----IDISQNNLKDI 479
Db 614 KLGINMLVKLITPDGKYLEKVGSKVGEVGNIANFELDQPYLPQGTFKYTIASKDYPEV 673
QY 480 SELSKYKNLTLVA-----AADNGIEDIRPLGOLP-NLKFLV----- 514
Db 674 SYDGTFTVPTSLAYKMASQTIFFPHAGDTYLR-VNPQFAVPKGTDALVRVDEFHGNAY 732
QY 515 LSNN-KISDLS-PLASLHQ-----LQELHIDNNQ--ITDLSPVSHKESLTV 556
Db 733 LENNYKVGKIKLPKLNQGTTRTAGNKIPVTMANAYLDNOSTYIYEV-PILEKENQT- 790
QY 557 VDLNRNADVDLATLQAPKLETLMVNDTKVSHDLFKNNPN-LSSLINRAQLQSL--EGI 613
Db 791 -----DKPSILPQFKRNKAQENSKLDEKV 814
QY 614 EASSVIVVEAE-----GNQIKSLVLKD-----KQSLTFLDVTG---NQLTSLEGV 657
Db 815 EEPKTSEKVEKEKLESTGNSTNSSTLEEVPVDPVQEKVAKFAESYGMKLENVLFNMDG- 873
QY 658 NNEFTALDILSVSKNQLTNVNLSPNKVTNIDISHNNISLADKLNEQHIEPAIAKNFPA 717
Db 874 -----TIELYLPSEGV---IKKN---MADF---TGEAPQNGENKPS 906
QY 718 VEGSMVNGTAEKAMATKAKESAQEA 746
Db 907 --ENGKVSTGVENQPT-ENKPADSLPEA 932
```

```
RESULT 7
US-09-471-255-55
; Sequence 55, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; CURRENT FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 55
; LENGTH: 1019
; TYPE: PRT
; ORGANISM: S. pneumoniae
; US-09-471-255-55
```

```
Query Match 7.2%; Score 292.5; DB 18; Length 1019;
Best Local Similarity 21.4%; Pred. No. 7.8e-13;
Matches 185; Conservative 114; Mismatches 283; Indels 283; Gaps 45;
```

```
QY 16 SQLTLIACQSRNGTYPIKTKQSRKGMTSNKIKPIKSKTKNTKHKGVAVDEPT----- 70
Db 217 SQLSYSSTASDN-----TQSAVAKGSTS---KPAKSENLOSLKEL--YDSPSAQRYS 265
QY 71 -DDGFILTKDSKILSKTDQGIIVVDHGDHSHFIFYADLKG--SPFEYLLP---KGASL--- 121
Db 266 ESDGLVF-DPAKIIKRPNGVAIPHGDHYHFIPTYSKLSALEEKIARNVPISGTGSTVSTN 324
```

```
QY 122 AKP-----AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDDHFHYTL 172
Db 325 AKPNEYVSSLSGLSSNPSSLSLTSKELSSASDGYIFNPKDIVEETATAYIVRHGHFHYIP 384
QY 173 KSSLGQTOAQAKOVATRLPQSSLSVSTATANGIPGLHPTSDGFQFNGQGIYGVTKDSI 232
Db 385 KSNQIGQPTLPNNSLAT--PSPSLPINPGTSH-----EKHEEDGYGFDANRIIAEDSGF 437
QY 233 LVVDHGHHPISFADLRQCGNAHVADQYDPAKKAKEPAETHQT----- 275
Db 438 VMSHGDHNNHYFFKKDLTE-----EQIKAAQKHLEEVKTSHNGLDLSLSDHODYPG 487
QY 276 --PELSEREKEYQEKLAYLAELKIDPSTIKRVETQDGKLGLEYPHDHAHYMLSDIEI 333
Db 488 NAKEMKDPKKIEKIAIGIMQYGVKRESI--VVKERNALITYPHGDH----- 533
QY 334 GKDIPDPAIEHARELEKHK-VGMDTLRALGFDEEVLIDIVRTHDAPTPPSPNE---KD 388
Db 534 -----HHADPIDEHKPVG-----IGHSHSNYELFKPEEGVAKKE 567
QY 389 PNMM--KEWLATVIKLDIGSRKDPLOQRKGLSLPLNLETIGFTPIKDISPVLQFKKLQ 446
Db 568 GNKVYTGEEELTVNVL---LKNSTFNQNFNLTANGOKRVSFSPPELE-----KKLGI 617
QY 447 LLMTKGTVDYRFLD-----NMPQLEG----IDISQNNLKDISFLS 483
Db 618 NMLVKLITPDGKYLEKVGSKVGEVGNIANFELDQPYLPQGTFKYTIASKDYPEVSYDG 677
QY 484 KYKNLTLVA-----AADNGIEDIRPLGOLP-NLKFLV-----LSNN 518
Db 678 TFTVPTSLAYKMASQTIFFPHAGDTYLR-VNPQFAVPKGTDALVRVDEFHGNAYLENN 736
QY 519 -KISDLS-PLASLHQ-----LQELHIDNNQ--ITDLSPVSHKESLTVVDS 560
Db 737 YKVGKIKLPKLNQGTTRTAGNKIPVTMANAYLDNOSTYIYEV-PILEKENQT----- 790
QY 561 RNADVADLATLQAPKLETLMVNDTKVSHDLFKNNPN-LSSLINRAQLQSL--EGIEASS 617
Db 791 -----DKPSILPQFKRNKAQENSKLDEKVEEPK 818
QY 618 VIVRVEAE-----GNQIKSLVLKD-----KQSLTFLDVTG---NQLTSLEGVNNT 661
Db 819 TSEKVEKEKLESTGNSTNSSTLEEVPVDPVQEKVAKFAESYGMKLENVLFNMDG----- 873
QY 662 ALDILSVSKNQLTNVNLSPNKVTNIDISHNNISLADKLNEQHIEPAIAKNFPAVYEG 721
Db 874 -----TIELYLPSEGV---IKKN---MADF---TGEAPQNGENKPS--EN 908
QY 722 SMVNGTAEKAMATKAKESAQEA 746
Db 909 GKVSTGVENQPT-ENKPADSLPEA 932
```

```
RESULT 8
US-09-471-255-84
; Sequence 84, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; CURRENT FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 84
```

```
; LENGTH: 1019
; TYPE: prt
; ORGANISM: S. pneumoniae
US-09-471-255-84
```

Query Match	7.28;	Score 292.5;	DB 18;	Length 1019;
Best Local Similarity	21.48;	Pred. No. 7.8e-13;		
Matches 185;	Conservative 114;	Mismatches 283;	Indels 283;	Gaps 45;

QY	16	SQTLIACQSGNGTYPRIKTKQSRKGMTSNKIKPIKKSCKTKNTHKGAVGDFPT-----	70
Db	217	SQLSYSTASDNN-----TQSVAKGSTS---KPAKSENLOSLLKEL--YDSPSAQRYS	265
QY	71	-DDGFILTKDSKILSKTDOGIIVVDHGHSHFIIFYADLK--SPEEYLP--KASL---	121
Db	266	ESDGLVF-DPAKIISRTPNGVAIPHGDIYHFIPYSKLSALEEKIARMVPISGTGSTVSTN	324
QY	122	AKP-----AVAQRAASQGSTK-VADPHHHYEFNPADIYAEDALGYTVRHDDHFIYL	172
Db	325	AKPNEVVSSIGSLSSNPSSLTTSKELSSASDGYIFNPKDIYEETATAYIVRHGDHFHYIP	384
QY	173	KSSLGCTQQAQAKQVATRLPQTSSLSVSTATANGIPGLHFPRTSDGFOFNGQGIYVTKDSI	232
Db	385	KSNQIGQPTLPNNSLAT--PSPSLPILNPGTSH----EKHEEDGYGFANDRIIAEDESGE	437
QY	233	LVVDHGHLPISFADLLRQGGWAHVADQYDPAKKAEPETHQT-----	275
Db	438	VMSHGDNHYEFKKDLTE-----EQIKAQKHLEEKTSHNGCLDSLSSHEQDYPS	487
QY	276	--PELSEREKEYOEKLAYLAEKLGIDPSTIKRVETQDGLGLEYPHHDHAYVLMDSIEI	333
Db	488	NAKEMKDLDKKIEEKIAGIMKQYGVKRESI---VNNKEKNALITYPHGDH-----	533
QY	334	GKDIPDPAIEHARELEKHK--VGMTPLRALGFDEEVLIDIVRTHDAPTFPFSNE---KD	388
Db	534	-----HHADPIDEHKPVG-----IGHSHSNYELFKPEEGVAKKE	567
QY	389	PNMM--KEWLATVIKLDGSRKDPLORKGLSLPLNLETLGIGTFPIKDISPVLQFKLKQ	446
Db	568	GKNKYTGEELTNVNL--LKNSTFNNQNFLLANGQKRVSESPPELE-----KKLGI	617
QY	447	LLMTKTGVTDYRFLD-----NMQLEG---IDISQNNLKDISFLS	483
Db	618	NMLVKLITPDKVLEKVSQVFEGEGVGNIANFELDQPYLPQGTFFKYTTIASKDYPEVSYDG	677
QY	484	KYKNLTIVA-----AADNGIEDIRPLGOLP-NLKFLV-----LSNN	518
Db	678	TFTVPTSLAYKMASQTIFFPHAGDTYLR-VNPQFAVPKGTDALVRVDFEFGNAYLENN	736
QY	519	-KISDLS-PLASLHQ-----LOELHIDNNQ--ITDLSVPVSHKESLTVVDLS	560
Db	737	YKVGEEKLPIPKLNQGTTRTAGNKIPVTFMANAYLIDNQSTIYIEV-PILEKENQT----	790
QY	561	RNADVDLATLQAPKLETLMVNDTKVSHLDFLKNPN-LSISINRAQLQSL--EGIEASS	617
Db	791	-----DKPSILPQFKRNKAQENSKEDEXEPEPK	818
QY	618	VIVRVEAE-----GNQIKSLVLKD-----KQSLTFPLDVTG---NQLTSLEGVNNFT	661
Db	819	TSEKVEKEKLESETGNSTSNSTLEEVPVDPVQEKVAKFASYSYGMKLENVLFNMDG-----	873
QY	662	ALDILSVSKNQLTNVNLSKPNKYTNIDISHNNISLADLKLINEQHIPEAIAKNFPAYYEG	721
Db	874	-----TIELYLPSCGEV-----IKKN---MADF---TGEAPQNGENKPS--EN	908
QY	722	SMVGNGTAEKKAAMATKAKESAQEA	746
Db	909	GKVSTGTIVENOPT-ENKPADSLPEA	932

RESULT 9
US-09-471-255-87

```

; Sequence 87, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; CURRENT FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 87
; LENGTH: 1019
; TYPE: PRT
; ORGANISM: S. pneumoniae
US-09-471-255-87

```

Query Match	7.2%;	Score 292.5;	DB 18;	Length 1019;
Best Local Similarity	21.4%;	Pred. No. 7.8e-13;		
Matches 185;	Conservative 114;	Mismatches 283;	Indels 283;	Gaps 45;

```

QY 16 SÖLTLIACÖSRGNGTYPIKTKÖSRKGMTSNKIKPKSKKTKNTHKGAVDPEPT----- 70
    ||| : | | : | | | | | : | : | :
Db 217 SÖLSYSTASDNN-----TÖSVAKGSTS--KPAKSENÖSLKEL--YDSPSAÖRYS 265
QY 71 -DGEFILTKDSKILSKTDÖGIVVDHGHSHFIIFYADLKG--SPEEYLIP---KGASL-- 121
    || : || : | | : | : | | | | | : | : | :
Db 266 ESDGLVF-DPAKISRPNNGVAIPHGDHYHFIPYSKLSALEEKIARWVPISGTVSTN 324
QY 122 AKP-----AVAÖRAASÖGTsk-VADPHHXYEFPNADIVAEDALGYVVRHDDHFHYIL 172
    || : : : | | | | : | | | | | | | | | | | |
Db 325 AKPNEVVSSLSGLSSNPSSLTTSKELSSASDGYIFENPKDIVEETATAYIVRHGDHFHYIP 384
QY 173 KSSLSGÖTÖAÖAKÖVATRLPÖTSSLVSTATANGTIPGLHFTSDGFÖNGÖIGVGTKDSI 232
    || : || : || | | | : | : | : | : | : | :
Db 385 KSNÖIGÖPTLPNNSLAT--PSPSLPINPGTSH-----EKHEEDGYGFDDANRIIAEDESGF 437
QY 233 LVYDHGHLHPISFADLRÖGGWAHVADÖYDPAKKAEPÄETHÖT----- 275
    : : | | | : | : : | | | | : | : | :
Db 438 VMSHGDHNHYFFKKDLTE-----EÖIKAAÖKHLEEVKTSHNGDLSLSSHEÖDYPG 487
QY 276 --PELSEREKEYÖEKIAYLAEKLGIDPSTIKRVETÖDGKLGLEYPHHDAHVLMDSIEI 333
    | : : | | : | : | : | : | | | | | |
Db 488 NAKEMKDLDKKIEEKIAGIMKÖYGVKRESI---VVNKEKNAIIYPHGDH----- 533
QY 334 GKDIPDPHAIEHARELEKHK-VGMDTLRALGFDEEVILDIVRTHDAPTPPSNE---KD 388
    | | : || : || | | | | | | | | | |
Db 534 -----HHADPIDEHKPVG-----IGHSHSNYELEKPEEGVAKKE 567
QY 389 PNMM--KEWLATVIKLIDGSRKDPLOÖRKGSLLENLETIGIGFTPIKIDISPVLOÖFKKLQ 446
    | : | | | : | : | : | : | : | : | |
Db 568 GNKVYTGELTNYVNL--LKNSTFNNÖNFTLANGÖKRVSFSFPELE-----KKLGI 617
QY 447 LLMTKTGVTDYRFLD-----NMÖLEG---IDISQNNLKDISFLS 483
    : | : | : : | : | : | | | | : | : | :
Db 618 NMLVKLITPDGKVLKGVSGKVFEGEGVGNIANFELDÖPYLPGÖTFKYTIASKDYPREVSYDG 677
QY 484 KYKNLTVA-----AADNGIEDIRPLGOLP-NLKFLV-----LSNN 518
    : | : | : | : | : | : | : | : | |
Db 678 TFTVPTSLAYKMASÖTIFYPFHAGDTYLR-VNÖFAVPKGTDALVRVEDEFHGNAYLENN 736
QY 519 -KISDLS-PLASLHÖ-----LÖELHIDNNÖ--ITDLSPVSHKESLTVVDSL 560
    | : : | : | : | : | : | : | : | : |
Db 737 YKVGGEIKLPIPKLNÖGTTRTAGNKIIPVTFMANAYALDNÖSTYIVEV-PILEKENÖT----- 790
QY 561 RNADVDLATLÖAPKLETLMWNDTKVSHLDLFKNPNP-LSSLINRAÖLÖSL--EGIEASS 617
    : | : | : | : | : | : | : | : | : |

```



```
Db 791 -----DKPSILPQFKRNKAQENSKLDEKVEEPK 818
QY 618 VIVRVEAE-----GNQIKSLVLKD-----KQSLTFLDVTG-----NQLTSLGVNFT 661
Db 819 TSEKVEKEKLESTGNSTNSTLEEVPTVDPVQEKVAKFAESYGMKLENLNMMDG----- 873
QY 662 ALDILSVSKNQLTNVNLSPKPNKTVTNIDISHNNISLADLKLNEQHIPEAIKNEPAAVEG 721
Db 874 -----TELTLPSGEV-----IKKN---MADF---TGEAPQNGENKPS--EN 908
QY 722 SMVNGTAEKAMATKAKESAQEA 746
Db 909 GKVSTGTVENQPT-ENKPADSLPEA 932
```

```
RESULT 10
US-09-471-255-88
; Sequence 88, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; CURRENT FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 88
; LENGTH: 1019
; TYPE: prt
; ORGANISM: S. pneumoniae
; US-09-471-255-88
```

```
Query Match 7.2%; Score 292.5; DB 18; Length 1019;
Best Local Similarity 21.4%; Pred. No. 7.8e-13;
Matches 185; Conservative 114; Mismatches 283; Indels 283; Gaps 45;
```

```
QY 16 SQTLLIACQSRGNGTYPIKTKQSRKGMTSNKTIKPKSKTKTKHKVAGVDFT----- 70
Db 217 SQTLLIACQSRGNGTYPIKTKQSRKGMTSNKTIKPKSKTKTKHKVAGVDFT----- 70
QY 71 -DDGFILTKDSKILSKTDQGIIVVDHGHSHFTFYADLKG--SPEEYLIP---KGASL--- 121
Db 266 ESDGLVF-DPAKITSRTPNNGVAIPHGDHYHFIPIYKLSALEEKIARWVPISGTSTVSTN 324
QY 122 AKP-----AVAQRAASQGTGK-VADPHHHYEFNPADIVAEDALGYTVRHHDFHYIL 172
Db 325 AKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP 384
QY 173 KSSLGQTOAQAKQVATRLPOTSSLSVSTANGIPGLHPTSDGFQFNGQGIIVGVTKDSI 232
Db 385 KSNQIGQPTLPNNSLAT--PSPSLPINGTSH-----EKHEEDGYGFDANRIIAEDSGF 437
QY 233 LVDHGHLPISFADLRQGGWAHVADQYDPAKKAETHQT----- 275
Db 438 VMSHGDHNYFFKKDLTE-----EQIKAAQKHLEEVKTSNGLDLSLSSHEQDYP 487
QY 276 --PELSEREKEYOEKLAYLAEKLGIDBSTIKRVETQDGKLGLEYRHHDAVLMDSIEI 333
Db 488 NAKEMKDLDKIEKTIAGIMKQYVKNESI--VVKKEKNALITYPHGDH----- 533
QY 334 GKDIPDPHAIEHARELEKHK-VGMDTLRALGFDEVIILDIYRTHDAPTRPPSNE---KD 388
Db 534 -----HHADPTDEHKPVG-----IGHSHSNYELFKPEEGVAKKE 567
QY 389 PNMM--KEWLATVIKLDGSRKDPLOQRKGLSLPLNLETLTGIGFTPIKDISPVLQFKKLQ 446
```

```
Db 568 GNKVYTGEEELTNVNL--LKNSTFNQNFLLANGQKRVSFSPPELE-----KTLGI 617
QY 447 LMTKTGVTDYRFLD-----NMPQLEG-----IDISQNNLKDISFLS 483
Db 618 NMLVKLITPDGKYLEKVSQKVFEGEVGNIANFELDQPYLPQGTFKYTIASKDYPEVSYDG 677
QY 484 KYKNLTVA-----AADNGIEDIRPLGQLP-NLKFVY-----LSNN 518
Db 678 TETVPTSLAYKMASQTIFFYPFHAGDTYLR-VNPFQAVPKGTDALVRYEDEFHGNAYLENN 736
QY 519 -KISDLS-PLASLHO-----LOELHIDNNO--ITDISPVSHKESLTVVDS 560
Db 737 YKVGELKLPKPLNQGTTRTAGNKIPVTFMANAYLDNOSTYIYEV-PILEKENQT----- 790
QY 561 RNADVDTLATQAPKLETLMVNDTKVSHLDPLKNNPN-LSSLINRAQLSL--EGIEASS 617
Db 791 -----DKPSILPQFKRNKAQENSKFDEKVEEPK 818
QY 618 VIVRVEAE-----GNQIKSLVLKD-----KQSLTFLDVTG-----NQLTSLGVNFT 661
Db 819 TSEKVEKEKLESTGNSTNSTLEEVPTVDPVQEKVAKFAESYGMKLENLNMMDG----- 873
QY 662 ALDILSVSKNQLTNVNLSPKPNKTVTNIDISHNNISLADLKLNEQHIPEAIKNEPAAVEG 721
Db 874 -----TELTLPSGEV-----IKKN---MADF---TGEAPQNGENKPS--EN 908
QY 722 SMVNGTAEKAMATKAKESAQEA 746
Db 909 GKVSTGTVENQPT-ENKPADSLPEA 932
```

```
RESULT 11
US-09-471-255-89
; Sequence 89, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; CURRENT FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 89
; LENGTH: 1019
; TYPE: prt
; ORGANISM: S. pneumoniae
; US-09-471-255-89
```

```
Query Match 7.2%; Score 292.5; DB 18; Length 1019;
Best Local Similarity 21.4%; Pred. No. 7.8e-13;
Matches 185; Conservative 114; Mismatches 283; Indels 283; Gaps 45;
```

```
QY 16 SQTLLIACQSRGNGTYPIKTKQSRKGMTSNKTIKPKSKTKTKHKVAGVDFT----- 70
Db 217 SQTLLIACQSRGNGTYPIKTKQSRKGMTSNKTIKPKSKTKTKHKVAGVDFT----- 70
QY 71 -DDGFILTKDSKILSKTDQGIIVVDHGHSHFTFYADLKG--SPEEYLIP---KGASL--- 121
Db 266 ESDGLVF-DPAKITSRTPNNGVAIPHGDHYHFIPIYKLSALEEKIARWVPISGTSTVSTN 324
QY 122 AKP-----AVAQRAASQGTGK-VADPHHHYEFNPADIVAEDALGYTVRHHDFHYIL 172
Db 325 AKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP 384
```

[illegible]

```

RESULT 12
US-09-471-255-2
; Sequence 2, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; CURRENT FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 2
; LENGTH: 1039
; TYPE: PRT
; ORGANISM: S. pneumoniae
US-09-471-255-2

```

Query Match	7.28;	Score 292.5;	DB 18;	Length 1039;
Best Local Similarity	21.48;	Pred. No. 8e-13;		
Matches 185;	Conservative 114;	Mismatches 283;	Indels 283;	Gaps 45;

OY	16	SQTLTACQSRGNGTYPIKTKQSRKGMTSNKIKPIPKSKTKNTKHKGAVGVDFPT-----70
Db	237	SQLSYSSTASDNN-----TQSVAKGSTS--KPAKSENLOSLLEL--YDSPSAQRYS285
OY	71	-DDGFILTKDSKILSKTDGIVVDHGDHSHEIFYADLK--SPFEYLIP---KGASL---121
Db	286	ESDGLVE-DPAKIISRTPNGVAIPHGDHYHFIPYSKLSALEEKIARMVPISGTGSTVSTN344
OY	122	AKP-----AVAQRAASOGTSK-VADPHNHYEFPADIYAEDALGYTVRHDDHFHYIL172
Db	345	AKPNEVVSSLGSLSSNPSSLTISKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP404
OY	173	KSLISGOTOAQAKOVATRRLPOTSLSLVSTATANGIPGLHPFSDGFQFNQGIGVGTKDSI232
Db	405	KSNIGIQPTLPNNSLAT--PSPSLPINPGTSH----EKHEEDGXGFANDRIIAEDESGE457
OY	233	LYVDHGHLHPISFADLRGGGMANHAVDOYDPAKKAKEPETHQT-----275
Db	458	VMSHGDNHHYFFKKDLTE-----EQIKAQAQHLEEVKTSHNGLDLSSHEQDYPG507
OY	276	--PELSEREKEYOEKLAYLAEEKLGIDPBSTIKRVETQDGKLGLEYRPHDHAVLMLSDIEI333
Db	508	NAKEMKDCLKKIEEKIAGIMKOYGVKRESI---VYNKEKNALIYPHGDH-----553
OY	334	GKDIPDHAIEHARELEKH-KGMDTLRALGFDEEVLIDIVRTHAPTPFPSNE---KD388
Db	554	-----HHADPIDEHKPVG-----IGHSHSYELFKPEGVAKKE587
OY	389	PNNM--KEWLATVIKLDLSRKDPLORKGLSLPLNETLGIGFTPIKDISPVLQFKKLKQ446
Db	588	GNKVYTGEELTNVNLT--LKNSTFNQNFTLANGOKRVSFSEPPLE-----KLGII637
OY	447	LIMTKGTVDYRFLD-----NMPOLEG---IDISONNLKDISFLS483
Db	638	NMLVKLITPDCKVLEKVGSKVFEGEYGNIANFELDQPYLPGOTFKYTTASKDYPEVSYDG697
OY	484	KYKNLTLVA-----AADNGIEDIRPLGQLP-NLKFV-----LSNN518
Db	698	TFTVTPTSLAYKMASQTIFFPFHAGDTYLR-VNQFAVPKGTDALVRVFDHFHGNAYLENN756
OY	519	-KISDLS-PLASLHO-----LOELHIDNNO--ITDLSPVSHKESLTVVDLS560
Db	757	YKVGEIKLPIPKINOGTTRTAGNKIPVTFMANAYILDNOSTYIYEV-PILEKENQT-----810
OY	561	RNADVDLATLQAPKLETIMVNDTKVSHLDPLKNNPN-LSSLSINRAQLOSL--EGIEASS617
Db	811	-----DKPSILPQFKRNKAQENSKLDEKVEEPK838
OY	618	VIVRVEAE---GNQIKSLVLKD-----KQSLTFLDVTG---NOLTSLEGVNNFT661
Db	839	TSEKVEKEKLESETGNSTNSJLEEVPPTVDPVOEKVAKFAESYGMKLENVLFNMDC-----893
OY	662	ABDILSVSKNOLTNVNLSKPNTVTNIDISHHNISLADLKLINEOHIPEALAKNPEAVYEG721
Db	894	-----TIELYLPSCGEV---IKKN---MADF---TGEAPQNGENKPS--EN928
OY	722	SMVGNGTAEKAAAMATRAKESAQEA746
Db	929	GKVSTGTVENOPT-ENKPADSLPEA952

```

RESULT 13
US-09-583-110-5226
; Sequence 5226, Application US/09583110
; GENERAL INFORMATION:
; APPLICANT: Lynn Doucelte-Stamm et al.
; TITLE OF INVENTION: Nucleic Acid and Amino Acid Sequences Relating to Streptococcus
; TITLE OF INVENTION: Pneumoniae for Diagnostics and Therapeutics

```

FILE REFERENCE: PATH00-07A
CURRENT APPLICATION NUMBER: US/09/583,110
CURRENT FILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: US 09/107,433
PRIOR FILING DATE: 1998-06-30
PRIOR APPLICATION NUMBER: US 60/085,131
PRIOR FILING DATE: 1998-05-12
PRIOR APPLICATION NUMBER: US 60/051,553
PRIOR FILING DATE: 1997-07-02
NUMBER OF SEQ ID NOS: 5322
SEQ ID NO 5226
LENGTH: 1039
TYPE: PRT
ORGANISM: Streptococcus pneumoniae
US-09-583-110-5226

Query Match 7.2%; Score 292.5; DB 19; Length 1039;
Best Local Similarity 21.4%; Pred. No. 8e-13;
Matches 185; Conservative 114; Mismatches 283; Indels 283; Gaps 45;

QY 16 SQTLLIACQSRGNGTYPITKQSRKGMTSNKIKPIKSKTKTKHKGAVGVDFT----- 70
DB 237 SQTLLIACQSRGNGTYPITKQSRKGMTSNKIKPIKSKTKTKHKGAVGVDFT----- 70
QY 71 -DDGFIITKSKILSKTDGIVVDHGHSHFIYADLKG--SPEYLLP---KGASL--- 121
DB 286 ESDGLVF-DPAKISRTPNNGVAIPHGDHYHFIPYSKLSALEEKIARMVPISGTSTVSTN 344
QY 122 AKP-----AVAQRAASQGTSK-VADPHHHEFNPAADIVAEDALGYTVRHHDFHYIL 172
DB 345 AKPNEVSSLSGLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP 404
QY 173 KSSLGQTOAQAKQVATRLPQTSLSLVSTATANGIPGLHPTSDGFQFNGGIVGVTKDSI 232
DB 405 KSNQIGQPTLPNNSLAT--PSPSLPINPGTSH-----EKHEEDGYGFANRIIAEDSGF 457
QY 233 LVDHGHLPISFADLRQGGNAHVADQYDPAKAEKPAETHQT----- 275
DB 458 VMHGDHNNHYFEKKDLTE-----EQIKAAQKHLEEVKTSHNGLDLSSHEQDYPG 507
QY 276 --PELSEREKEYOEKLAFLAEKLGIDPSTIKRYETQDGLGLEYPHHDHAAVLMDSIEI 333
DB 508 NAKEMKDLKKIEEKIAGIMQYGVKRESI---VYNKEKNATIIYPHGDH----- 553
QY 334 GKIDPDPHAIHARELEKHK-VGMDTLRALGDFDEEVLIDIVRTHDAPTPPSPNE---KD 388
DB 554 -----HHADPRIDEKHPVG-----IGHSHSNVELFKPEEGVAKKE 587
QY 389 PNMM--KEWLATVIKLDIGSRKDPLOKRLSLLPNLETLGIGFTPIKDISPVLQFKKLO 446
DB 588 GNVYTGEEELTNVNL--LKNSTFNNQNTFLANGQKRVSFSPPELE-----KKLGI 637
QY 447 LMTKTGVTDFRFLD-----NMPQLEG-----IDISQNNLKDISFLS 483
DB 638 NMLVKLITPDGKLVLEKVGKVFEGSVGNIANFELDQPYLPQGTFFKYTTASKDYPEVSYDG 697
QY 484 KYKNLTLLVA-----AADNGTEDIKRLPLGLP-NLKFLV-----LSNN 518
DB 698 TETVPTSLAYKMASQTIFFPHAGDFTYLR-VNPFQAVPKGTDALVRVDEFHGNAYLENN 756
QY 519 -KISDLS-PLASLHQ-----LQELHIDNNQ--ITDLSPVSHKESLTVVDLS 560
DB 757 YKVGELIKLPKLNQGTTRTAGNKIPVTFMANAYLDNOSTYIVEV-PILEKENQT----- 810
QY 561 RNADVDLATLQAPKLETLMVNDTKRVSHLDLKNPN-SSLSINRAQLQSL--EGIEASS 617
DB 811 -----DKPSILPQFKRNKAQENSKLDEKVEEPK 838
QY 618 VIVRVEAE-----GNQIKSLVLD-----KQSLTFLLDVTG---NOLTSLEGVNNFT 661
DB 839 TSEKVEKEKLESETGNSTNSITLBEVPTVDVQEKVAKFAESYGMKLENNVLFNMMDG----- 893

QY 662 ALDILSVSKNQLTNVNLSPKNTVTNIDISHNNISLADLKLINEQHIPEAIKNEPFAVEG 721
DB 894 -----TIELYLPSEGV-----IKKN---MADE---TGEAPQNGENKPS--EN 928
QY 722 SMVNGTAEKAMATKAKESAQEA 746
DB 929 GKVSTGTVENQPT-ENKPADSLPEA 952

RESULT 14
US-09-471-255-78

Sequence 78, Application US/09471255
GENERAL INFORMATION:
APPLICANT: BIOCHEM PHARMA INC.
APPLICANT: HAMEL, Jos,e
APPLICANT: BRODEUR, Bernard R.
APPLICANT: PINEAU, Isabelle
APPLICANT: MARTIN, Denis
APPLICANT: RIOUX, Cl,ment
TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
FILE REFERENCE: 12806-11PCT
CURRENT APPLICATION NUMBER: US/09/471,255
CURRENT FILING DATE: 1999-12-23
PRIOR APPLICATION NUMBER: US 60/113,800
PRIOR FILING DATE: 1998-12-23
NUMBER OF SEQ ID NOS: 102
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 78
LENGTH: 780
TYPE: PRT
ORGANISM: S. pneumoniae
US-09-471-255-78

Query Match 7.0%; Score 287; DB 18; Length 780;
Best Local Similarity 25.6%; Pred. No. 1.3e-12;
Matches 123; Conservative 63; Mismatches 166; Indels 128; Gaps 23;

QY 16 SQTLLIACQSRGNGTYPITKQSRKGMTSNKIKPIKSKTKTKHKGAVGVDFT----- 70
DB 217 SQTLLIACQSRGNGTYPITKQSRKGMTSNKIKPIKSKTKTKHKGAVGVDFT----- 70
QY 71 -DDGFIITKSKILSKTDGIVVDHGHSHFIYADLKG--SPEYLLP---KGASL--- 121
DB 266 ESDGLVF-DPAKISRTPNNGVAIPHGDHYHFIPYSKLSALEEKIARMVPISGTSTVSTN 324
QY 122 AKP-----AVAQRAASQGTSK-VADPHHHEFNPAADIVAEDALGYTVRHHDFHYIL 172
DB 325 AKPNEVSSLSGLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP 384
QY 173 KSSLGQTOAQAKQVATRLPQTSLSLVSTATANGIPGLHPTSDGFQFNGGIVGVTKDSI 232
DB 385 KSNQIGQPTLPNNSLAT--PSPSLPINPGTSH-----EKHEEDGYGFANRIIAEDSGF 437
QY 233 LVDHGHLPISFADLRQGGNAHVADQYDPAKAEKPAETHQT----- 275
DB 438 VMHGDHNNHYFEKKDLTE-----EQIKAAQKHLEEVKTSHNGLDLSSHEQDYPG 487
QY 276 --PELSEREKEYOEKLAFLAEKLGIDPSTIKRYETQDGLGLEYPHHDHAAVLMDSIEI 333
DB 488 NAKEMKDLKKIEEKIAGIMQYGVKRESI---VYNKEKNATIIYPHGDH----- 533
QY 334 GKIDPDPHAIHARELEKHK-VGMDTLRALGDFDEEVLIDIVRTHDAPTPPSPNE---KD 388
DB 534 -----HHADPRIDEKHPVG-----IGHSHSNVELFKPEEGVAKKE 567
QY 389 PNMM--KEWLATVIKLDIGSR-----KDPLOKRLSLLPNLE-TLIGIGFTPIKDISP 437
DB 568 GNVYTGEEELTNVNLKNSTFNNQNTFLANGQKRVSFSPPELEKKLGINML-VKLITP 626

RESULT 15
US-09-471-255-56

```

; Sequence 56, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos'e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; CURRENT FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 56
; LENGTH: 489
; TYPE: PRT
; ORGANISM: S. pneumoniae
; US-09-471-255-56

```

```

Query Match          6.1%; Score 248.5; DB 18; Length 489;
Best Local Similarity 28.9%; Pred. No. 5.8e-10;
Matches 86; Conservative 42; Mismatches 113; Indels 57; Gaps 14;

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QY 16 SQTLLACSRGNGTYPITKQSRKGMTSNKIKPIKSKTKTKHKGAVDFPT----- 70
    |||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 217 SLSYSTASDNN-----TQSVAKGSTS--KPAKSENLOSLKEL--YDSPAQRYS 265
    |||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
QY 71 -DDGFIITKDSKILSKTDQGIIVVDHGHSHFIFYADLK--SPEYLLP---KGASL--- 121
    ||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 266 ESDGLVF-DPAKISRTPNGVAIPHGDHYHFIPYSKLSALEEKIARMVPISGTSTVSTN 324
    ||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
QY 122 AKP-----AVAQRAASQGTSK-VADPHHHYEFNPADIYAEDALGYTVRHDDHFHYIL 172
    |||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 325 AKPNEVVSSLSLSSNPSSLTSTSKELSSASDGYIFNPKDIYEETATAYIVRHGDHFHYIL 384
    |||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
QY 173 KSSLGQTQAQAKQVATRLPQTSSLSVSTATANGIPGLHFPSTSDGFQFNGGIVGYTKDSI 232
    ||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 385 KSNQIGQPTLPNNSLAT--PSPSLPINPGTSH-----EKHEEDGYGFDANRIIAEDSGF 437
    ||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
QY 233 LVVDHGHLPISFADLRQGGWAHVADQYDPAKKAEPKPAETHQT-----PELSEREKEY 285
    ||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 438 VMSHGDNHNYFFKKDLTE-----EQTKAAQKHLEEVKTSHGNGLDLSLSSHEQDY 485
    ||: | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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Search completed: December 3, 2001, 07:22:27
Job time: 516 sec

Db 2 SYELGRHQAGVKKESNRVSYIDGDAQCA--ENLTPDEVSKREGINAEOXVIKITDQG 59

QY 81 YVTSHGDIHFYNGKVPYDAIISELLMTDPNHYFKOSDVINEILDGYIVKNGNYVYL 140

Db 60 YVTSHGDIHFYNGKVPYDAIISELLMTDPNHYFKOSDVINEILDGYIVKNGNYVYL 119

QY 141 KPGSKRNIRTKQOIAEOVAKGTKEAKEKGLAQAVALHLSKEEVAANEAKRQGRYTTDDGY 200

Db 120 KDAHADNIRTKKEIKRQ----KQERSHN-----HNSRAD-NAVAARAQGRYTTDDGY 168

QY 201 IFSPTDIIDLDGDAYLVPHGNHYHYPKKDLSPSELAAQAQYWSOKQGRGARPSPDYRPTP 260

Db 169 IFNASDIEDTGDAYIVPHGDHYHYPKNELASASELAEEAYWNGKQ--GSRPSSSSSYN 226

QY 261 AFGRRKAPIPDVTPNPGQGHQPDNGGYHAPRRPNDAQONKHORDEFKGTPEKELLDQLH 320

Db 227 A-----NPAQPRLESENHNLTVTP-----TYHQN--OGENISSLLRELY 262

QY 321 RLDLKYRHEEDGLIFERTQVIXSNAFGYVVPBGHDHYHIIIPRSQSPLEMLAD---RY 376

Db 263 AKPLSERHVESDGLIFDPAQITSRARGVAAPHGNHYHIFIPYQMSLEKRIARIIPLR 322

QY 377 LAG-----QTDNDSSGSDHSPSKSEVTHFLGHRKAKYKGLDGKPYDTS 423

Db 323 RSNHWVPDSRPEQSPQSTPEPSPQAPAPNQPRA-----PSNPIDEK- 365

QY 424 AYVFSKESIHSDKSGVTAKHGDHFIYIGFGELOYELDEVANWVAKGQADELVAAIDQ 483

Db 366 ---LVKEAVRKV-----GDGY-----VFEENGVSRYIPAKDLAETAAAGIDS 404

QY 484 EOGKEKPLEDTKKVSRKYTKDGKGYIMPKDGKDYFARYQDLTQIAFAEQELMLKDK 543

Db 405 KLAQESL--SHKLGAKTD-----LPSSDREFYKAYDL---LARIHQDLIDNKG 451

QY 544 HYRYDIVDTGIEPRLAVVSSLPMHAGNATYTGSSFVIPHIDHIVVPYSWLTRNQIAT 603

Db 452 QVDFEALDNLLE-RLK-DVXS-----DKVKLV-----XDILA 481

QY 604 IKYVMOHPEVRPDPVMSKPGHEESGVIPNVTPLDKRAGMPNMOIHSAAEQKALAEGRF 663

Db 482 FLAPIRHPE-----RLGKPNQITTYTDEIQVAKLAGKY 515

QY 664 AAPDGYIFDPRDLAKETFEWKGDSFSIPRADGSLRTINKSDLSQAEMQAQELLAKKN 723

Db 516 TTEEGYIFDPRDITSDE-----GDAYVTPHMTHS--HWIKKDSLSEAEARAAQAYAKEKG 568

QY 724 AGDATDTDKPEEKQADKSNENQPSSEA--SKEEKESDDFIDSLP----- 766

Db 569 L-----TPPSTDHODSGNTEAKGAEAITYNRVKAARKVPLDRMPYNLOGYVEYKNGSLI 621

QY 767 -----DYGDLRA-----TLEDHINOIAOKANIDPKYLIFOP----- 797

Db 622 IPHYDHYHNIFEFWEDEGLYEAPKGYTLEDLLATYV-----KYVEHHPNERPHSDNGF 673

QY 798 ----EGVQFYNNKNGELVT 811

Db 674 GNASDHVQ-RNKNQQADT 690

RESULT 2

US-08-961-083-56

; Sequence 56, Application US/08961083

; Patent No. 6159469

; GENERAL INFORMATION:

; APPLICANT: Choi et. al.

; TITLE OF INVENTION: Streptococcus pneumoniae Antigens and Vaccines

; NUMBER OF SEQUENCES: 452

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Human Genome Sciences, Inc.

; STREET: 9410 Key West Avenue

; CITY: Rockville

; STATE: Maryland

; COUNTRY: USA

ZIP: 20850

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3.50 inch, 1.4mb storage

COMPUTER: Hp Vectra 486/33

OPERATING SYSTEM: MSDOS version 6.2

SOFTWARE: ASCII Text

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/961,083

FILING DATE:

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER:

FILING DATE:

ATTORNEY/AGENT INFORMATION:

NAME: Brookes, A. Anders

REGISTRATION NUMBER: 36,373

REFERENCE/DOCKET NUMBER: PB340P2

TELECOMMUNICATION INFORMATION:

TELEPHONE: (301) 309-8504

TELEFAX: (301) 309-8512

INFORMATION FOR SEQ ID NO: 56:

SEQUENCE CHARACTERISTICS:

LENGTH: 796 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-961-083-56

Query Match 21.4%; Score 934; DB 4; Length 796;

Best Local Similarity 29.4%; Pred. No. 3.4e-69;

Matches 271; Conservative 99; Mismatches 235; Indels 318; Gaps 32;

QY 22 SYOLGKHHMGLATKDNQIAIYIDSKGKVPKPT-NKTMQISAEGISAEOIYVKITDQG 80

Db 1 SYELGLYQARTVKENNRVSYID--GKQATQKTEMLTPDEVSKREGINAEOIYVKITDQG 57

QY 81 YVTSHGDIHFYNGKVPYDAIISELLMTDPNHYFKOSDVINEILDGYIVKNGNYVYL 140

Db 58 YVTSHGDIHFYNGKVPYDAIISELLMTDPNHYFKOSDVINEILDGYIVKNGNYVYL 117

QY 141 KPGSKRNIRTKQOIAEOVAKGTKEAKEKGLAQAVALHLSKEEVAANEAKRQGRYTTDDGY 200

Db 118 KDAHADNIRTKKEIKRQKQESQH-REGG-----TPRNDGAVALARSGRYTTDDGY 169

QY 201 IFSPTDIIDLDGDAYLVPHGNHYHYPKKDLSPSELAAQAQYWSOKQGRG--ARPSDYR 258

Db 170 IFNASDIEDTGDAYIVPHGDHYHYPKNELASASELAEEAFLS--GRGNLSRSTYRR 226

QY 259 TPAPGRRKAP-IPDVTPNPGQGHQPDNGGYHAPRRPNDAQONKHORDEFKGTPEKELLD 317

Db 227 QNSDNTSRNWMVPSVS-NPGTTPNNTSN-----NSNTNSQASQSNND-----IDSLLK 272

QY 318 QLHRLDLKYRHEEDGLIFERTQVIXSNAFGYVVPBGHDHYHIIIPRSQSPLEMLAD--- 374

Db 273 QLYKLPLSQRHVESDGLVFDPAQITSRARGVAAPHGNHYHIFIPYQMSLEKRIARIIP 332

QY 375 -RYLAG-----QTDNDSSGSDHSPSKSEVTHFLGHRKAKYKGLDGKPYDTS 423

Db 333 LRYRSNHWVPDSRPEQSPQPTPEPSPQAPAPNLKIDSNSLSVSQLVRKVGEGYVEEK 392

QY 391 -----SKPSDE-VTHFTFLGHR-----IKAY----- 410

Db 393 GISRYFAKDLPSETVKNLESKLSQESVSHLTAKKENVAPRDQEFYDKAYNLLTEAHK 452

QY 411 ----GKGLD-----GKP----- 418

Db 453 ALFXNKGNSDFQALDKLLERLNDESTNKEKLVDDLAFIAPITHPERLGKPNQIETE 512

QY 419 -----YDTSDAYVFSKESIHSDKSGVTAKHGDHFIYIGFGELOYELDEVANW 467

Db 513 DEVRIAQLADKTYTSDGYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAQAY 572

QY 468 VYAKQADELVAAALDQEGKEKPLFDTKKVSRYTKDGKGYIMPKDKDYFYARYQLDL 527
 Db 573 TKEKG---ILPPSPADYKANPTGDSAAA-----IYNR----- 602
 QY 528 TQIAFAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMAHGNATYDTCSSFEVPHIDH 587
 Db 603 -----VKGEKR-----IPVRLPYMEHTVEVKNGNLLIIPKDH 636
 QY 588 IHVVPYSWL-----TRNQTATIKYVMQHPEVRP---DVWSKPGHEESGVIPN 632
 Db 637 YHNKIFAWFDDHTYKAPNGYTLLEDLFATIKYVEHPDERPHSNDGW-----GNASEH 688
 QY 633 VTPLDKRAGMPNMQIHSAEVQKALAEGRAPADGYIFDPRDVLAKETFWKKDGSFISIP 692
 Db 689 VLGKKDSEDPNKNEKADEEPEETPAE-----PE-----VP 720
 QY 693 RADGSSLRTINKSDLSQAEWQAOELLAKKN---AGDATDT-----DKPEE 735
 Db 721 QVE-----TEKYEAQLKEAEVLLAKVTDSSLSKANATETTLAGLRNNLTQLIMDNNSI 771
 QY 736 KOQADK---SNENQPSSEASKEE 755
 Db 772 MAEAEKLLALLKGSNPSSVSKEK 794

RESULT 3
 US-08-961-083-182
 ; Sequence 182, Application us/08961083
 ; Patent No. 6159469

; GENERAL INFORMATION:
 ; APPLICANT: Choi et. al.
 ; TITLE OF INVENTION: Streptococcus pneumoniae Antigens and Vaccines
 ; NUMBER OF SEQUENCES: 452
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Human Genome Sciences, Inc.
 ; STREET: 9410 Key West Avenue
 ; CITY: Rockville
 ; STATE: Maryland
 ; COUNTRY: USA
 ; ZIP: 20850
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Diskette, 3.50 inch, 1.4Mb storage
 ; COMPUTER: HP Vectra 486/33
 ; OPERATING SYSTEM: MSDOS version 6.2
 ; SOFTWARE: ASCII Text
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/961,083
 ; FILING DATE:
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER:
 ; FILING DATE:
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Brookes, A. Anders
 ; REGISTRATION NUMBER: 36,373
 ; REFERENCE/DOCKET NUMBER: PB340P2
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (301) 309-8504
 ; TELEFAX: (301) 309-8512
 ; INFORMATION FOR SEQ ID NO: 182:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 447 amino acids
 ; TYPE: amino acid
 ; STRANDEDNESS: single
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-961-083-182

Query Match 19.2%; Score 839.5; DB 4; Length 447;
 Best Local Similarity 40.7%; Pred. No. 1e-61;
 Matches 180; Conservative 58; Mismatches 119; Indels 85; Gaps 10;

QY 29 HMGATKRD-NQIAYIDDSKGYKAPKTNKTMQISAEGISAEQIYVKITDQGYVTSBGD 87
 Db 4 HRSQENKDNRRVSYVDGSQSQKS--ENLTPDQVSQKEGIAQEQIVIKITDQGYVTSBGD 61
 QY 88 HYHFNKGVPEYDAIISELLMTDPNHYHFKQSDVINELDGYVIKNGNYYVYLKPGSKRK 147
 Db 62 HYHYNGKVPYDALFSEELLMKDPNYQLKADADIVNEVGKGYIIVKDGKYYVYLKDAAHAD 121
 QY 148 NIRTQOIAEQVAKGTKEAKEKQLAQVAHLSKEEVAANVEAKRQGRYTTDDGYTFESPTDI 207
 Db 122 NVRTKDELNRQOEHVKD-NEKYNNSVA-----VARSQGRYTTNDGYVFNPAADI 169
 QY 208 IDDLGDAYLVPHGNHYHIPKDLSPSELAAQAYWSQKQGRGARS--DYRPPAPGR 265
 Db 170 IEDTGNAYIVPHGHHYIIPKSDLSASELAAKAHLA---GKNMQPSQLSYSTASDNNF 226
 QY 266 KAPIPDVTPNPGQGHQPDNGGYHAPPPRPNDASQNKHQDEFEKGTFEKELLDQHLRLDK 325
 Db 227 QSVAKGSTSKPAN-----KSENLSLKELYDPSA 257
 QY 326 YRHVEEDGLIEPTQVIKSNAGYVPHGDHYHIIPRSQSPLEMLADRYLAGQTDDND 385
 Db 258 QRYSESDGLVEDPAKIIISRTPNQVAIPHGDHYHIFPYSKLSALEKIAMVPISGSTV 317
 QY 386 S-----GSDHSKPS---DKEVTHFLGHRIRAKYCGKGLDGKPYDTSDAVFSK 429
 Db 318 STNAKPNEVSSLSGLSSNPSSLTTSKELS-----SASDGYIFNP 357
 QY 430 ESIHSVDKSGVTAKHGDHFHYI 451
 Db 358 KDIVEETATAYIVRHGDHFHYI 379

RESULT 4
 PCT-US93-07261-11
 ; Sequence 11, Application PC/TUS9307261

; GENERAL INFORMATION:
 ; TITLE OF INVENTION: PFEMP3 MALARIA ANTIGEN, ANALOGS, ANTIBODIES AND USES THEREO
 ; NUMBER OF SEQUENCES: 23
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: John H. C. Blasdale
 ; STREET: One Giralda Farms
 ; CITY: Madison
 ; STATE: New Jersey
 ; COUNTRY: USA
 ; ZIP: 07940-1000
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: Apple Macintosh
 ; OPERATING SYSTEM: Macintosh 6.0.5
 ; SOFTWARE: Microsoft Word 5.1a
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/US93/07261
 ; FILING DATE: 19930805
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 07/927,531
 ; FILING DATE: 07-AUG-1992
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Blasdale, John H. C.
 ; REGISTRATION NUMBER: 31,895
 ; REFERENCE/DOCKET NUMBER: DX0288K
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 201-822-7398
 ; TELEFAX: 201-822-7039
 ; INFORMATION FOR SEQ ID NO: 11:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 1588 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; PCT-US93-07261-11

Db	387	-SKVNGKKLKTSTFNPFRKRNKLKERKMQELHFKKNYKKYQKLLEREKRENPDPGEPLNT	445
Qy	422	SDAYVESKESIHSDKSGYTAKHGDHFHYIGFGELEQYELDEVANWVK-----	469
Db	446	PEIHVIRPSDL-MDK-GENKSAGHPFKYQPTKGLKEYEESHVSKDYQLEHEPPTKLPEY	502
Qy	470	AKQADELVAAALDQEQGKEKPLFDTKKVSRKVTKDGVGYIMPKDGKDYFYARYOLD---	526
Db	503	EKGHVSREYQLDHEPPTKLEPEYKGVHSREYQLDNEVRDELPEYKGVHSREYQLDNEG	561
Qy	527	-LTQIAFAEQELML-KDKKHRYRDIVDTGIEPRLA--VDVSSLPMHAGNATYDTGSSFVI	582
Db	562	PSTLKEYDQTELAKGKDITNKPHEVSDEYDQTELAKGKDITNKP--HESVDEYD-----	613
Qy	583	PHIDHIVVPYSWLTRNQATIKYVMQHPEVRPD-----VMSKPGHEESGVI	630
Db	614	-----QSELAKGKDITNKPHEVSDEYDQTELAKGKEVTNKP-HENLEEY-	656
Qy	631	PNVTPLDKRAGMPNMQIIHSAEYQKALAEGR-----FAAPDGYTFDPRDYLAKETFW	684
Db	657	-NETDLAKGKEVTNKPHEVSDEYDQSELAKGKDITNKPHEVSDEY---DQTELAK-----	707
Qy	685	KDGSFISIPRADGSSLRTINKSDISQAEWQQAQELL--AKKNAGDATDTDKPEEKQQADKS	742
Db	708	---GKEVTNKARENLEEYNETDLA-----KKEVTNKARENLEEYNETDLAKGKEVTNKA	759
Qy	743	NENQO---PSEASKEEKESDDFTDSLDPYGLDRATLEDHINOQAOKANIDPKYLIPOPEG	799
Db	760	HENLEEYNETDLAKGKEVTNKAHENLEEY-----NETDLAKGKEVTNKP---AHEN	806
Qy	800	VQFYN-----KNGELVTYDIKTLOQIN	821
Db	807	LEEYNETDLAKGKEVTNKAHENLEEYN	833
RESULT 6			
US-08-596-291-3			
; Sequence 3, Application US/08596291			
; Patent No. 5821075			
; GENERAL INFORMATION:			
; APPLICANT: GONEZ, LEONEL JORGE			
; APPLICANT: SARAS, JAN			
; APPLICANT: CLAESSEON-WELSH, LENA			
; APPLICANT: HELDIN, CARL-HENRIK			
; TITLE OF INVENTION: PRIMARY STRUCTURE AND FUNCTIONAL			
; TITLE OF INVENTION: EXPRESSION OF NUCLEOTIDE SEQUENCES FOR NOVEL PROTEIN			
; TITLE OF INVENTION: TYROSINE PHOSPHATASES			
; NUMBER OF SEQUENCES: 4			
; CORRESPONDENCE ADDRESS:			
; ADDRESSEE: WOLF, GREENFIELD & SACKS, P.C.			
; STREET: 600 ATLANTIC AVENUE			
; CITY: BOSTON			
; STATE: MASSACHUSETTS			
; COUNTRY: USA			
; ZIP: 02210			
; COMPUTER READABLE FORM:			
; MEDIUM TYPE: Floppy disk			
; COMPUTER: IBM PC compatible			
; OPERATING SYSTEM: PC-DOS/MS-DOS			
; SOFTWARE: Patent In Release #1.0, Version #1.25			
; CURRENT APPLICATION DATA:			
; APPLICATION NUMBER: US/08/596,291			
; FILING DATE: 09-AUG-1996			
; CLASSIFICATION: 435			
; PRIOR APPLICATION DATA:			
; APPLICATION NUMBER: US 08/115,573			
; FILING DATE: 01-SEP-1993			
; ATTORNEY/AGENT INFORMATION:			
; NAME: GATES, EDWARD R.			
; REGISTRATION NUMBER: 31,616			
; REFERENCE/DOCKET NUMBER: 10461/7000			
; TELECOMMUNICATION INFORMATION:			

	TELEPHONE:	617/720-3500
	TELEFAX:	617/720-2441
	TELEX:	92-1742 EZEKIEL
	INFORMATION FOR SEQ ID NO:	3:
	SEQUENCE CHARACTERISTICS:	
	LENGTH:	2465 amino acids
	type:	amino acid
	TOPOLOGY:	linear
	MOLECULE TYPE:	protein
	US-08-596-	291-3

Query Match	3.1%;	Score 135.5;	DB 2;	Length 2465;
Best Local Similarity	19.6%;	Pred. No. 0.067;		
Matches 172;	Conservative 114;	Mismatches 328;	Indels 265;	Gaps 44;

QY	9	GSVAAILLATHIGSYOLGKHNMGL---ATKDNOIAYIDDSKGKYAKPTNKTM-D-QISAE	64
Db	1422	GQVHHLLLEK--GQSPTSKEHVPYTPQCTLSDONA---QGQGEPEKYAKTTQVKDYSFYTE	1476
QY	65	EGISAEOIVVKITDOGYVTSHGDHYHFYNGKVYPDAIISEELMTDPNYHFKOSDVINET	124
Db	1477	ENTFEYKLFKNSSSGLGFSEFSRED--NLIPQINASIVRVKKLFAGQPAAESGKIDVGDI	1534
QY	125	LDBGVIKVNNGNYVYLKPGSKRKNIPT-----KQQ	154
Db	1535	L-----KVNG---ASLKGLSQOEVISALRGTAPEVELLCRPPRGVLPEIDTALLTPLQS	1586
QY	155	IAEQVAKGTKEAKEKGLAOVAHLSCVEYAAVNEAK-----ROGRYTT----DDGYIFS	203
Db	1587	PAQVLPNSSKSDSSQPSCEQSTSSDENEMSDKSKQCKSPSRDYSYSDSGGEDDLVTA	1646
QY	204	PTDIIIDLDAYL-----VPHGNHYHIPKKDLSPSELAAAQAAYSQKQGRGARPSDY	256
Db	1647	PANISNSTWSSALHQTLNMSWSQAQSHHEAPK---SQEDTICTMFIYYPKIPNKPFEEDS	1703
QY	257	RPTPARGGRRKAPIPDVTNPQGQHOPDNCGYHPAPPRPNDASQNKHORDEFKGTKELL	316
Db	1704	NPSPLP-----PDMA--PGQSYQPQS-----ESASSSSMDKYHIHHTSEPTRQENW	1747
QY	317	DQLHRLDIKYRHVEEDGLIFE-PTQVIKSN--AFGVVPHGDHYHIIPRSQSLPLEMELA	373
Db	1748	TPL-KNDLE-NHLEDLELEVELLITLIKESKASLGFTVTGKN-----ORI	1790
QY	374	DRYLAGQTDDNDSDSGSHSKSPSDEKVTHTFLGHRIKAYGKGLDGKPYDTSDAYVESKESI	433
Db	1791	GCYVHDVIDDPKAKSDGRLKPGDRLI-----KVN	1818
QY	434	SVDKSGVFAKHGDHFNHYIGFGELEYELDEVANMWKAKGADELVAALDQOGKEKPLFD	493
Db	1819	DTDVTNMT-HTD-----AVMLLRASKTVRLVI-----GRAYPRITQ	1853
QY	494	TKKVS-----RKVT-KDGKVGYIMPKDKGVFYARYQOLDLT--QIAFAEQELMLDKKH	545
Db	1854	NTNVASFATGKHKLTCNKEELGFSLCGGHDSLQYVYISDINPRSAVAIEGNLQDLVDIHY	1913
QY	546	RYDIVDTGI---EPRLADVSSLPMHAGNATYTGGSSFVIPHIDIHVVPYSWLTRNQIA	602
Db	1914	VNGVSTQGMITLEEVNRALDM-SLP-----SLVLK-----ATRNDLP	1948
QY	603	TIKYVMOHPEVRPDVWSKPGHEESGVT-PNVTPLDKRAGMPNWQIIHSAEEVOKALAEG	661
Db	1949	VVPSKRSAVASAPRSTKNGSYSVSGCSQPALTPNDSEFTV-----AGEEINE-----	1996
QY	662	RFAAPDGYIF-----DPRDLAKETFVWKDGSFSTIPRADGSSLRTINKSDLQAEMOQA	715
Db	1997	-ISYPKGCSFYQIKGSPNLTLPKESYIQEDDIY-----DDSQAFAEVIQSLLDVVD-BEA	2049
QY	716	QELLAKKN-AGDA-----TDPTD---KPEEKQAADKSN-----ENG	746
Db	2050	QNLLNNNAAGDSGCPGLTKMNGKLSERTEDTDCDGPPLPEYFTFATKMNGCEEYCCEEK	2109
QY	747	QPSSEA---SKEEKESDDFI---DSLPHYGLDRATILED	777

Db 2110 VKSESLIQPKQEKTTDDDEITWGNDELP---IERTNHED 2145

RESULT 7

US-09-100-804-3

Sequence 3, Application US/09100804

Patent No. 6066472

GENERAL INFORMATION:

APPLICANT: GONEZ, LEONEL JORGE

APPLICANT: SARAS, JAN

APPLICANT: CLAESSON-WELSH, LENA

APPLICANT: HELDIN, CARL-HENRIK

TITLE OF INVENTION: PRIMARY STRUCTURE AND FUNCTIONAL

TITLE OF INVENTION: EXPRESSION OF NUCLEOTIDE SEQUENCES FOR NOVEL PROTEIN

TITLE OF INVENTION: TYROSINE PHOSPHATASES

NUMBER OF SEQUENCES: 34

CORRESPONDENCE ADDRESS:

ADDRESSEE: WOLF, GREENFIELD & SACKS, P.C.

STREET: 600 ATLANTIC AVENUE

CITY: BOSTON

STATE: MASSACHUSETTS

COUNTRY: USA

ZIP: 02210

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent in Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/100,804

FILING DATE:

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/596,291

FILING DATE: 09-AUG-1996

APPLICATION NUMBER: US 08/115,573

FILING DATE: 01-SEP-1993

PRIOR APPLICATION DATA:

APPLICATION NUMBER: PCT/US94/09943

FILING DATE: 01-SEP-1994

ATTORNEY/AGENT INFORMATION:

NAME: GATES, EDWARD R.

REGISTRATION NUMBER: 31,616

REFERENCE/DOCKET NUMBER: LO461/7003

TELECOMMUNICATION INFORMATION:

TELEPHONE: 617-720-3500

TELEFAX: 617-720-2441

TELEX:

INFORMATION FOR SEQ ID NO: 3:

SEQUENCE CHARACTERISTICS:

LENGTH: 2465 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-09-100-804-3

Query Match 3.1%; Score 135.5; DB 3; Length 2465;

Best Local Similarity 19.6%; Pred. No. 0.067;

Matches 172; Conservative 114; Mismatches 328; Indels 265; Gaps 44;

QY 9 GSVAAILLATHIGSYQLGKHHMGL---ATKDNQIAYIDDSKGVKAPKTNKTMQ-QISAE 64

Db 1422 GOVHLLLEK--GQSPTSKEHVPTPQCTLSQNA---QGQPEKVKKTTQVKDYSEVTE 1476

QY 65 EGISAQIIVKITDQGYVTSKDHVHYNGKVPYDAIISSELMITDPNHYFKQSDVINET 124

Db 1477 ENTFEVKLEKNSGSGFSGFRED--NLPEQINASTIVKVKLFAGQPAESGKIDVGVIT 1534

QY 125 LDGYVIVKNGNYVYLLKPGSKRNKRT-----KQQ 154

Db 1535 L-----KVNQ---ASLKGLSQGEVISAIRGTAPEVVELLCRPPGVLPEIDTALLTPLOS 1586

QY 155 IAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAK-----RQGRYTT-----DDGYIFS 203

Db 1587 PAQVLPSNSKSSQSPSCVEQSTSSDENEMSDKSKQCKSPSRDSYSSSGSGEDDLVTA 1646

QY 204 PTDIIDLDGDAYL-----VPHGNHYHYIPKKDLSPSELAAQAYWSQKQGRGARPSDY 256

Db 1647 PANISNTWSSALHQLTSLNMVSAQASHHEAPK---SQEDTICTMFTYYPQKIPNKEFEEDS 1703

QY 257 RPTPAPGRKAPIPDVTNPGQGHQPDNGGYHAPPRPNDAQONKHORDEFKGTKEKLL 316

Db 1704 NPSPLP-----PDMA--PGQSYQPOS-----ESASSSSMDKYHHHISEPTROENW 1747

QY 317 DQLHRLDKYRHEVEDGLIFE-PTQVYKSN--AFGYVYPHGDHYHIIIPRSQSLPEMELA 373

Db 1748 TPL-KNDLE-NHLEDFELEVELLITLIKSEKASLGFTVTKGN-----QRI 1790

QY 374 DRYLAGQTDNDSDSGSDHSPKPSKEVTHTFGLHRIKAYGKGLDGKPYDTSDAYVESKESIH 433

Db 1791 GCYVHDVYIQDPAKSDGRKLPKPDRLI-----KVN 1818

QY 434 SVDSGVTAKHGDHFHYIGFEELEYELDEVANWYAKGQADELVAAALDQEGKEKPLFD 493

Db 1819 DTDVNTMT--HYD-----AVNLRAASKTVRLVI-----GRVPRITQ 1853

QY 494 TKKVS-----RKVT-KDGKGYVIMPKDKDYFYARYQLDLT--QIAFAQELMLKDKKH 545

Db 1854 NTNVASEFATGKHLTKNKEELGFSLCGSHSLYQVYISDINPRVAALIEGNQLLDVIHY 1913

QY 546 RYDIIVDTGI--EPRLAVDVSSLPMHAGNATYDTGSSSEVYIPHIDHIVVPSWLTNRQIA 602

Db 1914 VNGVSTQMTLEEVNRALDM-SLP-----SLVLK-----ATRNDLP 1948

QY 603 TIKYVMQHPEVRPDPVWSKPGHEESGYI-PNVTPLDKRAGMPNWOIHSANEVQKALAE 661

Db 1949 VWPSSKRSASVAPKSTKNGSYSVGSCQPALTFPDSFSTV-----AGEEINE----- 1996

QY 662 RFAAPDGYIF-----DPRDYLAKETFWWKDGSFIPRADGSSLRTINKSDLSQAEWQQA 715

Db 1997 -ISYPRKGCSTYQIKGSPNLTLPKESYIQEDDIY-----DSDQAEVYIQLLDVVD-EEA 2049

QY 716 QELLAKKN-AGDA-----TDTD--KPEEKQQAQKSN-----ENQ 746

Db 2050 QNLNENNAAGDSCGPGILKMNKGLSEFRTEDTDCDGSPLPEYFTFATKMGCEEYCEEK 2109

QY 747 QPSEA-----SKEEKESDDFI-----DSLDPYGLDRATLED 777

Db 2110 VKSESLIQPKQEKTTDDDEITWGNDELP---IERTNHED 2145

RESULT 8

US-08-296-791-3

Sequence 3, Application US/08296791

Patent No. 6245337

GENERAL INFORMATION:

APPLICANT: St. Geme III, Joseph W.

APPLICANT: Falkow, Stanley

TITLE OF INVENTION: Haemophilus Adherence and Penetration

TITLE OF INVENTION: Protein

NUMBER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS:

ADDRESSEE: Flehr, Hobach, Test, Albrighton & Herbert

STREET: 4 Embarcadero Center, Suite 3400

CITY: San Francisco

STATE: California

COUNTRY: United States

ZIP: 94111-4187

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent in Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

QY 207 IIDDL-----GDAYL-----VPHGNHYI--PKKD--LSPSELAAQAYWSOKGGRGAPRS 254
Db 688 LNDLLEVEKGTLELFGSRPTPHARDIAGISSTKDPHFAENNEVVEDDWINR----- 739
QY 255 DYRPTPARGRKAPIPDYTPNPGQGHQPDNGCYHPAPRPNDASQNKHQ----- 303
Db 740 -----NEKATIMNT-----GNASLYSGRNVANITSNITASNAQVHIGYKTDIV 785
QY 304 --RDEFGK--TFKELLDQLHRLDLKRYHVEDGLIEPTQVI-----KS 344
Db 786 CVRSDDYTGVTCTDKLSDKALN-----SFNPTNLGRNVNLTESANFVLGKA 832
QY 345 NAFGYVPHGD-----HYHIIPRSQSLPELMELADRYLAGQTDNDSDGSHKPSD 395
Db 833 NLFGTIQRSGNSQVRLTENSWMHLTGSVDH--QLDLANGHILNSADNSN----- 881
QY 396 KEVHTHTFLGHRIRKAYGKLDGKPYDTSAYVESKESISHVDSGVTAKHGDHFHYIGFGE 455
Db 882 -NVT-----KYNTL-----TVNSLSGNG-----SFYYL--TD 905
QY 456 LEQYELDEVANWYKAKQADELVAAALDQEOG-KEKPLFDTKKVSKRYTKDGKVGyimPKD 514
Db 906 LSNKQGDVAVVTKSATGNFTLQVADKGTGEPNHNELTFDASKAQRDHLNLSLVGNTVDLG 965
QY 515 GKDY----FYARYQLDLTQIAFAEOELMLKDKKHRYDIVDTGIEPRLAVDVSSLPMHAG 570
Db 966 AMKXKLRNVNGRYDLNPEV-----EKRNOTVDITNTITPNNIQADVPSPV- 1011
QY 571 NATYDTGSSFYIPHIDHIHVVPYSWLTNRQIATIKYVMQHPEVRPDVWSKPGHEESGVI 630
Db 1012 -----SNNEELARVDEAPVPPAPAT-----PSETTETVAENSKQESKTYE 1052
QY 631 PNVTPLDKRACMPNWOIISHAEVQKALAEGRFAAPDGYIFDPRDLAKETFWKDGSGFS 690
Db 1053 KNEQDATEITTAO-NREVAKEAKSNVYKANTQTNEVAQSG--SETKETQTET----- 1100
QY 691 IPRADGSSLTINKSDLSQAEWQAOELLAKKNAGDATDTDKPEEKQ-----QADKSNE 744
Db 1101 -----KETATVEKEKEKAKVETEKTOEV-----PKVTSQVSPKQOSETVQPAEPARE 1148
QY 745 NQPSSEASKEKESDDFIDS 764
Db 1149 NDPTVNIKEPOSQNTTADT 1168

RESULT 10
US-08-790-912-4
; Sequence 4, Application US/08790912
; Patent No. 5976542
; GENERAL INFORMATION:
; APPLICANT: Weiser, Jeffrey N.
; APPLICANT: Plaut, Andrew G.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT
; TITLE OF INVENTION: OF STREPTOCOCCUS PNEUMONIAE INFECTION
; NUMBER OF SEQUENCES: 10
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PANITCH SCHWARZE JACOBS & NADEL, P.C.
; STREET: 1601 Market Street, 36th Floor
; CITY: Philadelphia
; STATE: Pennsylvania
; COUNTRY: USA
; ZIP: 19103-2398
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/790,912
; FILING DATE: 29-JAN-1997
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 60/026,939
FILING DATE: 23-SEP-1996
ATTORNEY/AGENT INFORMATION:
NAME: Leary, Kathryn
REGISTRATION NUMBER: 36,317
REFERENCE/DOCKET NUMBER: 7600-401
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 567-2020
TELEFAX: (215) 567-2991
TELEX: 831-494
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 1861 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-790-912-4

Query Match 3.0%; Score 131.5; DB 2; Length 1861;
Best Local Similarity 18.1%; Pred. No. 0.091;
Matches 180; Conservative 118; Mismatches 316; Indels 383; Gaps 45;

QY 97 PYDAIIESELLMTDPNHYEKQSDVINEILDGYIVKVN-----GNYYYL--KPGSKRKN 149
Db 245 PODEVLGR--VAKPELLYKETSTIETIAYGEQIOENPDLAEGTVRVKQEGKPGRIEYV 302
QY 150 R-----TKQOIAEQVAKGTKEAKEKGL-----AQVAHLSK--- 179
Db 303 RIFTVDNAEVSREVLSTKIEATPKIVEKGTKKLEAPSEKPVTSNLVQPEQVAPLPEYTG 362
QY 180 -----EEVAANVEAKRQGRYT-TDDGYIFSPTDIIDDLG----DAYLVPHGNHYH 225
Db 363 VQGAIVEPEQVASLPE-----YSGTISGAIVEPEQIEPEIGVQSGAIVEPE---QV 412
QY 226 LPKRD-----LSPSELAAQAYWSOKGGRGAPRSDYRPTP-----APGRK 266
Db 413 TPLPEYTGQAGAVVSPQVAPLPEYTGQSGAIVEPAQVTPLEPYTGVSQAIYKPAQV 472
QY 267 APIPD-----VTPNP-----GQGHQPD-- 283
Db 473 TPLPEYTGQSGAIVEPEQVTPSPPEYTGQAGAIVEPEQVASLPEYTGQAGAIVEPEQV 532
QY 284 -----NGYHPAPRPND-----ASQNKHQDE-FKGTFKELLD-QLHRL-DLYR-HV 329
Db 533 EPPQEYTGNIPEAPAEENPTKEAQDEPEKQKQPEKNIELRNVSDVELYSLADGKYQH 592
QY 330 EEDGLIEPTQVTKSNAGFYVPHGDHYHIIPRSQSLPELMELADRYLAGQTDNDSDGSD 389
Db 593 SLD-----AIPSNQENYEVK-----VKSKFKDVFLPIS-----SIYD 625
QY 390 HSKPSDEKVTHTFLGHRIRKAYGKLDGKPYDTSAYVESKESISHVDSGVTAKHGDHFH 449
Db 626 STK-----DQPVYKITA--SAEKL---KQDVNNKXEDNFT 656
QY 450 YIGFGLQYELDEVANWYKAKQADELVAAALDQEQKREKPLFDTKKVSRKYTKDGKVG 509
Db 657 FYLAKKAER---EVTNFT---SESNLVQAINNNLNGTYLLAASLANEVELENGASSY 708
QY 510 IM-----PKDGKDYFYARYQLDL---TQIAFAEOELMLKDKKHRYRDIYDTGIEP 556
Db 709 IKGRFTGKLFSGSKDGKN--YAIYNLKKPLFDTLSAATVENLTLKD-----VNI 754
QY 557 RLAADVSSLPMHAGNATYDTSSEFVIPHIDHIH----- 590
Db 755 SGKTDIGALANEANNAT-----RINNVDGVLAGEGIGGLVWKADNSKISNS 804
QY 591 -----VPY-----SWLTRNQTATIKYVMQHPEVRPDVWSKPGHEES 626
Db 805 FKGRIVNSYETKAPYNIGGLVGLTGINALVDKSKATITTISSNADSTNQTGYGLGLVER 864
QY 627 GSVIR-----NVTPLDKRAGMPN--WQ----- 646

Db 865 DALISNSYAEGNINNVKRFSGVAGYGLWDRDSSERHAGRLHNVLSDINVMNGNAISG 924
QY 647 -----IIHSAEEVOKALAEGRFAAPDGYIFDPRDYLAKEFTVW 684
Db 925 YHGRMITDSYKNDNRVYKVKLEKDEVVTKESLEER-----GTILDVSOIASKSEI- 978
QY 685 KDCSFSIPRADSSLRITINKSDLSQAEWQAOELLAKKNA-----GDATD 729
Db 979 --NSLSAPKVEITLSTNKESDFSKVQASRALAYKNIEKLLPFYNKATYKGNLVK 1036
QY 730 TDK---PEKQOAKSNNENQOPSEASKESDDEIDSLPDYGLDR--ATLEDHINOLAQ 784
Db 1037 EDSLYEKEILSAVMMKDNVITDIAHKEBANKLLIHYKDHSEKLDLTYSQDFSKLAE 1096
QY 785 KANIDPKYLIPOEGVOFYNNKNGELVYDIKTLQOIN 821
Db 1097 -YRVGDTGLIYTPN--QFLQNHSSIVNEVLPDLKAYD 1130

RESULT 11
US-08-296-791-6
; Sequence 6, Application US/08296791
; Patent No. 6245337
; GENERAL INFORMATION:
; APPLICANT: St. Geme III, Joseph W.
; APPLICANT: Falkow, Stanley
; TITLE OF INVENTION: Haemophilus Adherence and Penetration
; TITLE OF INVENTION: Protein
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Flehr, Hobach, Test, Albritton & Herbert
; STREET: 4 Embarcadero Center, Suite 3400
; CITY: San Francisco
; STATE: California
; COUNTRY: United States
; ZIP: 94111-4187
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/296,791
; FILING DATE: 25-AUG-1994
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Trecartin, Richard F.
; REGISTRATION NUMBER: 31,801
; REFERENCE/DOCKET NUMBER: A-59941/RFT/RMS
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 781-1989
; TELEFAX: (415) 398-3249
; TELEEX: 910 277299
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1848 amino acids
; TYPE: amino acid
; TOPOLOGY: unknown
; US-08-296-791-6

Query Match 3.0%; Score 130.5; DB 4; Length 1848;
Best Local Similarity 17.2%; Pred. No. 0.11;
Matches 159; Conservative 120; Mismatches 327; Indels 319; Gaps 39;
QY 48 KVKAPKTKMTDQISAEGTSAEQIVKITDQGVVTSBGDHYHYNGK-----VPYDA 100
Db 487 KQKADANNKV--QAFSOGVIGRSTLVNDKQVDPNSIYFGFRGRLDLNGLSLTFDH 544
QY 101 I-----ISELLMTDPN---YHFQSDVINEILLDGYVIKV--- 132
Db 545 IRNIDGARVYVNHMTNTSNITFTGESLITNPMTITSYNIEAQD-----DDHPLRIRSI 598

QY 133 -----NGNYVYLLKPGSKRKNI-----RTKQILAEQVAKGTKEAK 167
Db 599 PYROLTFNQDNRSYTLTKKCASTRSELPONSGESNENWLYMGRTSDAAKRNVMHINER 658
QY 168 EKGIAOVAHLKSKEEVAAVNEAR-----ROGRYTTDDGYIFSPYDIIDDL-----GDA 214
Db 659 MNGFN--GYFGEEETKATONGKLVNTFNGKSDQNRFLTGG-----TNLNGDLNVEKGYL 711
QY 215 YL-----VPHGNHYHYI--PKKD--LSPSELAAQAQYWSQKQGRGAPRSDYRPTAPGRRK 266
Db 712 FLGRPTPHARDIAGISSTKKDPHTENNEVVVEDWINR-----NFK 754
QY 267 APIPDVTPNPGQHQPNDNGYHPAPRPNDASQNKHQDEFKGTFKELLDQLRLDLKY 326
Db 755 ATTNVVTGNASL-----YSGRNVANITSNTASNNAQ 786
QY 327 RHVEDDGLIEPTQVTKSNAGYVVPBGDHYHIIPRSQLSPLEMELADRYLAGQTDNDNS 386
Db 787 VHI---GYKTGDTVCVRSDDYTGVTCHNSNLSKALNSFNTN-----LRGVNLTEN 836
QY 387 GSDHSPKSDKEVTHFTFLGRIRIKAYGKGLDGKPYDTSDAYVFSKESHSVDKSGYTAHGD 446
Db 837 AS-----FTLGKANLFG--TIQISIGTSQVNLKENS 864
QY 447 HFHYIGFGELEQYELDEVANWVAKAGQADELVAALDOEGKEKPLFDTKVSRKVKTKDGK 506
Db 865 HWHLTGNSVYNQNLNTNGHILHNAQNDANKVTT-----YNLTVN----- 904
QY 507 VGYIMPKDKDYFYARYQLDLTQIAFAEQELMLKDKHYRYDIVDTGIEPRLAVDVSLP 566
Db 905 -----SLSGNSFY--YVWDF-----NNKSN-----KVVNKSA-- 932
QY 567 MHAGNATYDTGSSFVPHIDHIVVPSWLTNRQIAT-----KYVMQHPVVRP 615
Db 933 --TGNFTLOVADKTGEPNHNELTFDASNATRNMLEVTLANGSVDRGAMKYLRLVNGRY 990
QY 616 DVWSKPGHEESGVIPN--VTPLDKRAQMPNMQIHSAAEEVOKALAEGRFAAPDGYIFD 672
Db 991 DLYN-PEVEKRNQYVDTNTITTPNDIQADAPSAQ--SNMEIARVETPVPPAP-----A 1042
QY 673 PRDYLAKEFTVWKDGSFIPRAD-----GSSLRTINKSDL-----SQAEWQAOELLA 720
Db 1043 TESALASEQEPETRAPETAQPAEMEETNTANSTETAPKSDYATQTEPNPNSSESPTTEKVA 1102
QY 721 K-----KNAGDATD-----TDKP-----BEKQOAKSNNENQOPSEAS 752
Db 1103 ENPPOENETVAKNEQEATEPTPONGEVAKEQOPTVEANTQTNEATQSEKTEETQTAETK 1162
QY 753 KEKESDDFTSLPDYGLDRATLEDHINOLAQKANID-----PKYLIQOP 797
Db 1163 SEPTESVTVSENOPEKTVSQSTEDKVVEKEKAKVETEETQKAPQVTSKEPPKQAEAP 1222
QY 798 EGVQFYNNKNGELVYDIKTLQOINP 822
Db 1223 EEVP-TDTNAE-----EAQALQOTOP 1242

RESULT 12
PCT-US95-10661A-6
; Sequence 6, Application PC/TUS9510661A
; GENERAL INFORMATION:
; APPLICANT: Washington University, et al.
; TITLE OF INVENTION: Haemophilus Adherence and Penetration Protein
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Flehr, Hobach, Test, Albritton & Herbert
; STREET: 4 Embarcadero Center, Suite 3400
; CITY: San Francisco
; STATE: California
; COUNTRY: United States
; ZIP: 94111-4187
; COMPUTER READABLE FORM:

```

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/10661A
FILING DATE: 16-AUG-1995
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/296,791
FILING DATE: 25-AUG-1994
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Trecartin, Richard F.
REGISTRATION NUMBER: 31,801
REFERENCE/DOCKET NUMBER: FP-59941/RET
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 1848 amino acids
TYPE: amino acid
TOPOLOGY: unknown
PCT-US95-10661A-6

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Query Match          3.0%; Score 130.5; DB 5; Length 1848;
Best Local Similarity 17.2%; Pred. No. 0.11;
Matches 159; Conservative 120; Mismatches 327; Indels 319; Gaps 39;

QY 48 KVAAPKNTKMDQISAEESISAEQIVKTDGQVTVSHGDHYHFNK-----VPYDA 100
DB 487 KQKADANNKV--QAFSQVGVISGRSTLVLDNDKQVDPNSIYFGFRGRLDLNGNSLTFDH 544
QY 101 I-----ISELLMTDPN-----YHFKQSDVINEILDGYIKV--- 132
DB 545 IRNIDGARVNVNHNMTNTSNTITGESLTNPNTITSYNIEAD-----DDHPLRISI 598
QY 133 -----NGNYVYVLKPGSKRKNI-----RTKQIAEQVAKGTKEAK 167
DB 599 PYRQLYFNQDNRSYTLKKGASTRSELPQNSGESNENWLYMGRTSDAAKRRVMNHINNER 658
QY 168 EKGLAQVAHLKKEEVAAVNEAK-----RQGRYTTDDGYIFSPDIIDL----GDA 214
DB 659 MNGFN--GYFGEETKATQNGKLVNTFNGKSDQNRFLTLTG-----TNLNGDLNVEKGT 711
QY 215 YL-----VPHGNHYH--PKKD--LSPSELAQAAYWSQKQGRGARPSDYRPTPAGRRK 266
DB 712 FLGSRPTPHARDIAGISSTKDPHFTEENNEVVEDDWIR-----NFK 754
QY 267 APIPDVTPNPGQGHQPRDNGGYHAPRPNDASQNHQRDEFKGTKEFLDQLHRLDKY 326
DB 755 ATTMNVVTGNASL-----YSGRNVANITSNTASNAQ 786
QY 327 RHVEEDGLIFEPTQVIRKSNAGVNVPHGDHHLIPRSQLSPLEMELADRYLAGQTDND 386
DB 787 VHT---GYKTGDTVCVRSYDYTGVTCHNSNSEKALNSFNPTN-----LRGNVNLTEN 836
QY 387 GSDHSKPSDKQVTHFLGRIKAYGKGLDQKPYDTSDAYVESKESIHSDVSKGVTARHGD 446
DB 837 AS-----FTLGKANLFG--TIQSIGTSQVNLKENS 864
QY 447 HFHYIGFGELEQYELDEVANWVAKAGADELVALDQEQGKEKPLFDTKVSRKVTKDGK 506
DB 865 HWHLTGNSNVNQNLNGLHILNAQDANKVTT-----YNTLTVN----- 904
QY 507 VGIMPKDKGDFYARYQLDLQIAFAEQELMLKDKKHRYDIVDTGIEPRLAADVSSLP 566
DB 905 -----SLSGNGSFY--YWVDF-----NNKSN-----KYVVKSA-- 932
QY 567 MHAGNATYDTGSSFVIPHIDHIVVPYSWLTNRQIAT-----KYVMQHPEVRP 615

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DB 933 --TGNETLQVADKGTGEPNHNELLTFDASNATRNNEVTLANGSVDRGAWKYKLRVNGRY 990
QY 616 DWSKPGHEESGVIPN--VTPDKRAGMPNMQIHSAEVQKALAEGRFAAPDGYIFD 672
DB 991 DLYN-PEVEKRNQVDTNTNTTNPNDIQADAPSAQ--SNNEIARVETPVPPAP-----A 1042
QY 673 PRDVLAKETVWKDGSFSIPRAD-----GSSLRTINKSDL-----SQAEWQQAQOELLA 720
DB 1043 TESAIASEQETPRPAETAQAPAMEETNTANSTETAPKSDTATQTENPNSESVSETTEKVA 1102
QY 721 K-----KNAGDATD-----TDKP-----EKKQADKSNENQOPSEAS 752
DB 1103 ENPQENETVAKNEQATEPTPQNGEVAKEDQPTVEANTQTNATQSGKTEETQTAETK 1162
QY 753 KEEKESDDFIDSLPDYGLDRATLEDHINQLAOKANID-----PKYLIFOP 797
DB 1163 SEPTESVTVSENOPEKTVSQSTEDKVVVEKEKAKAVETEETQKAPQVTSKEPPKQAPAP 1222
QY 798 EGVQFYNNKNGELVTVYDIKTLQOINP 822
DB 1223 EEVP-TDTNAE---EAQALQOTOP 1242

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```

RESULT 13
US-08-663-112-2
Sequence 2, Application US/08663112
Patent No. 5849503
GENERAL INFORMATION:
APPLICANT: WACATSUMA, Masako
APPLICANT: KURITA, No. 5849503iko
TITLE OF INVENTION: MUTANT PROTEINS OF HUMAN DNA
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Finnegan, Henderson, Farabow, Garrett &
ADDRESS: Dunner L.L.P.
STREET: 1300 I Street, N.W.
CITY: Washington
STATE: D.C.
COUNTRY: USA
ZIP: 20005-3315
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/663,112
FILING DATE: 26-NOV-1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Einaudi, Carolyn P.
REGISTRATION NUMBER: 32,220
REFERENCE/DOCKET NUMBER: 06609.1488-00000
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-408-4000
TELEFAX: 202-408-4400
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 765 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-663-112-2

```

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Query Match          3.0%; Score 130; DB 2; Length 765;
Best Local Similarity 19.2%; Pred. No. 0.03;
Matches 155; Conservative 107; Mismatches 264; Indels 280; Gaps 40;

QY 86 GDHYHFNKGVAPDAIISELLMTDPNVH-FKQSDVINEILDGYIVKNGNYVYVLKPGS 144

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Db 3 GDHLH-----NDSQIEADFRNLDSHKHKDKREHNRKE-----HKKEKRE 45
QY 145 KRKNIRKQIAEQVAKTKEAKEGLAQAHLK-----EEVAAVNEAKRQR 193
Db 46 KSKHNSSEHKSEKKEKKEKTKHKDSSSEKHKDKHDKDRKREKKEKVRASGDAKI-K 103
QY 194 YTTDDGYIESPTDIDD-LGDAYLVPHGNHYHYPKKDLSPSELAAQAAYWSQKQGRGAR 252
Db 104 KEKENG-SSPPQIKDEPEDDGYFVP-----PKEDIKP-----LKRPRDED 143
QY 253 PSDYRP-----TPAGRRKAPIDVTPNPGQGHOPDNGGYHAPPRPNASQNKHORD 305
Db 144 DVDYKPKKIKTEDETKKEKKRLK-----EEDGKLKPKMKDKDKVPEPDNKKKKPKKEE 199
QY 306 EFKGTFKELDLRLDLKRYHVEEDGLIFEPT-----QYIK-----343
Db 200 EQKMKWEE-----ERYPEGIKWFLHKGVPFAPRYEPLPENVKFYDGKVMKLSPKAEV 256
QY 344 SNAFGYVPH-----GDHYHIIIPRSQSLPEMELADRYLAGQTD 382
Db 257 ATFFAKMLDHEYTTKEIFRKNFEKDWKREKMTNEKNII-TNLSKCDFTQMSQYFKAQTE 314
QY 383 DNDGSDHSPKSDKEVTHFLGHRKAYGKGLDKRPYDTSAYVESKEST-HSVDRSGV 440
Db 315 ARKQMSKEEKLKKEENKRL-----KEYG-----FCIMDNH-----KERIANFKIEPPGL 360
QY 441 TAKHGDHFIYIGFELQYELDEVANWVAKQADELV-AALDQEQKEKPLFTDKKV- 497
Db 361 FRGKGNH-----PKMGMLKRIMPEDIIINCSKDAKVPSPRGHKEKVEV 405
QY 498 -SRKYT-----KDGKVGYIM-----PKDGKDYFARYQLDLQIAFAEQELML 539
Db 406 HDNKVTWLVSWTENIGSIIKYMILNPSRIKGEKDWQYETAR-----RLKKCV 455
QY 540 KDKKHRYRDIYDGIETPR-----LAVDYSSLPMAHGN-----ATYDTS--SEVIPHID-- 586
Db 456 KIRNOYREDWKSKEKVRQRAVALYFIDKLALRAGNEKEGETADTVGCCSLRVEHINLH 515
QY 587 -----HIHVYPSWLTNRQIATIKYVMOHPREVPRDVSCKPGHESGSVIPNVTPLDKRAG 641
Db 516 PELDGEYVVEEFLGKD--SIRY-----NKVPEKRV- 547
QY 642 MPNMQIHSABEVOKALAEGRFAARDGIYEDPRD--VLAKETFWKDGSEFISPRADGSSL 699
Db 548 FKNLOLFEMENKQ-----PEDDLFRLNTGILNKLHLODLMEG-----LTAKYV 589
QY 700 RTINKSDLSQAEOQAEQELLAKKNAGDATDTPDKPEK-----QY 738
Db 590 RTFNASITLQ--QQLKEJLA-----PDENIPAKILSYNRANRAVALICNHQR 634
QY 739 A-----DKSNENQPSSEAKESD 759
Db 635 APKPTFEKSMNLOTIKIDAKKEQLAD 660

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RESULT 14
US-08-488-940-2
Sequence 2, Application US/08488940
Patent No. 5854049
GENERAL INFORMATION:
APPLICANT: Reed, Guy L.
TITLE OF INVENTION: PLASMIN-RESISTANT STREPTOKINASE
NUMBER OF SEQUENCES: 20
CORRESPONDENCE ADDRESS:
ADDRESSEE: Fish & Richardson P.C.
STREET: 225 Franklin Street
CITY: Boston
STATE: MA
COUNTRY: USA
ZIP: 02110-2804
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible

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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/488,940
FILING DATE: 09-JUN-1995
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Fraser, Janis K.
REGISTRATION NUMBER: 34,819
REFERENCE/DOCKET NUMBER: 05433/009001
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617/542-5070
TELEFAX: 617/542-8906
TELEX: 200154
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1181 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-488-940-2

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Query Match 3.0%; Score 129; DB 2; Length 1181;
Best Local Similarity 18.8%; Pred. No. 0.071;
Matches 180; Conservative 131; Mismatches 325; Indels 322; Gaps 49;

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QY 29 HMGATKDNQIAYIDSKGK-----VKAFTNKTMDQISAEEGISAQIYVKITDQGYVTS 84
Db 204 HMN-ADTDSIAEAFNKGETAMTINGPWSMNSIDTSKVNXYGT-----VLPTFKGQPSK 257
QY 85 HGDHYHFYNGKVPYDAIISEELMTDPNYHFQSDVINEILDGYIVIKVNGNYYVYLLKPGS 144
Db 258 -----PFVGVLSAGINAASPN-----KLAKEFLENYLLTDEG-----LEAVN 295
QY 145 KRKNIR--TKQIAEQVAK-----GTKEAKEG--LAQVAHLS-----KEEVAAVNEAKRQ 191
Db 296 KDKPLGAVALKSYEEELAKDPRIATMENAGGEIMPNIPOMSAFWYAVRTAVINAA--S 353
QY 192 GRYTDDGYIESPTDIDDLDGDAYLVPHGNHYHYPKKDLSPSELAAQAAYWSQKQGRGA 251
Db 354 GRQYVDEA-----LKDAQTNSSSVPGRGS 377
QY 252 RPSDYRPTAPGRKRAP-----DYTPNPGQGHOPDNGCYHPA 290
Db 378 -----IEGRNNSQLVSVAGTVEGTNODISLKFFFEIDLTSRPAHGKTEQGLSPKS 428
QY 291 PPRPNASQNKHQDEFEKGTFFELLDL-----HRLD-----LKYRH 328
Db 429 KPFATDSGAMSHKE--KADLLKAIQEOQLIANVHSNDYFEVIDFASDATITDRNGKYF 486
QY 329 VEEDGLIEFPQYIKSNAP-GYVVPBGDHYHIP-RSGLSPLEMLADRYLAGQTDNDNS 386
Db 487 ADKDGSVTLPTQPVQEFLLSGHV--RVRYKEKPIQNAKSVDEYVQFTPLNPPDD-- 541
QY 387 GSDHSPKSDKE-----VTHFLGHRKAYGKGLDKRPYDTSAYVESKESIHSVKS 438
Db 542 -----FRPGLKDTKLKTLAIGDTITTSQELLAQAQISILNKNH--PGY-----TIYERSS 589
QY 439 GVTAKHGDHFIYIGFELQYELDEVANW-VKAKQADELVAALDQEQKEKPLFTDKKV 497
Db 590 IYV-HDNDIFRTI-----LPMDOEFTYRVKNEQA-----YRINKKSGLINEINNTDLI 637
QY 498 SRKYTKDGKVGKIMPKDGKDY-----FYARY-QLDLQIAFAEQELMLKDKKHRY 546
Db 638 SEKY-----YVLKKGKRPYDPFDRSHLKLFTIKYVDVDFNELLKSEQLLTASERNLDF 690
QY 547 YDIYDTGIEPRLAVDVSSLPMAHGNATYDTGSSSVIPIHDIHVPSWLT-----597
Db 691 RDLVD-----PRDKAKLLYN-----NLDAFGIMDYT-LTGKVEDNHHDD 727
QY 598 RNQIATIKYVMOHPE-----VRPDVWSKPGHE-----ESGSVIPNVTPLDKRAGM 642

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Db 728 TNRITV-YMKRPEGENASYHLAYDKDRTEEREVSYLRYTGTPID-NPNDKN--- 782
QY 643 PNMQIHSAEVOKALAEGRFAAPDGYIFDPRDYLAKETFWWKDGSFSIPRA-----DG 696
Db 783 -NSOLVSV---AGTVEGTNODISLKFEE-IDLSRPAHGKTEOGLSPKSKPATDSG 836
QY 697 SSLRTINKSDLSQAEWQOQOELLAKN-----AGDATDTDKPEEKQOQADKSNEN 745
Db 837 AMSHKLKADLLKAIQEO---LIANVHSNDYFEVIDFASDATITDRNGKVYPADKDSV 893
QY 746 QOPSEASKE-----EK-----ESDDFIDSLPDYGLDR 772
Db 894 TLPTQPVQEFLLSGHVRVRYKEKPIQNAKSVDEYTVQFTPLNPDDDRPGLKDTKL- 951
QY 773 ATLEDHINOLAOKANIDPKYLIFQPE-----GVQFYKNGELVTVYDIKTLQOINP 822
Db 952 -----LKTALIGDTITSQELLAQOQSLNKNHPGYTIERDSSIVTHDNDIFRTILP 1003

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RESULT 15
5231168-2
; Patent No. 5231168
; APPLICANT: DIEGIEL, MORTEN; BORRE, MARTIN; JEPSEN, SOREN;
; VUUST, JENS; RIENECK, KLAUS; WIND, ANNETTE; JAKOBSEN, PALLE H.
; TITLE OF INVENTION: MALARIA ANTIGEN
; NUMBER OF SEQUENCES: 19
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/409,658
; FILING DATE: 18-SEP-1989
; SEQ ID NO:2:
; LENGTH: 783
5231168-2

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Query Match 2.9%; Score 127.5; DB 6; Length 783;
Best Local Similarity 18.3%; Pred. No. 0.049;
Matches 159; Conservative 137; Mismatches 294; Indels 281; Gaps 42;

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QY 41 YIDDSKGVKAPKTKNTMDQISAEEG-----ISAEQIVKTIIDGCVTSHGDH 88
Db 2 FVESEKSEHEAEN-----EESLLEGHHEIIVEPQONNEESGESKLVNDDEGFEAHHEN 57
QY 89 Y-HFYNGKVPYDAIISELLMTDPNHFQSDVINELDGYIVKNGNYVYLKPGSKR 146
Db 58 FSSEVNSSELENENEFESDSKVTPEAH---EEVSE-----ESNPEPAENESSI 105
QY 147 KNIRTKQOIAEOVAKGTKEAKKGLAQAVALSKEEVAAVNEAKRGRTTDDGYIFSPD 206
Db 106 EEAHQEIVPEQ---NDEESGESGLVD-----NE---EGDFEEPNNHEEPDQ 147
QY 207 IIDDLDGAYLVPH-----GNHYHIIPKKDLS-PSE-----LAAQAYMSQKQ 248
Db 148 NDESELSENEVESEKSVSEPAHVEIVSEKSVSEPAHVEIVSEKSTSEPAHVESVSEQ 207
QY 249 RGARPSDYRPTPAFGRRKAPIDVTPNPG---QGHQPDNGGYHPAPRPNDAS----- 298
Db 208 SNNEPSEKKGVPSPKPFEEIEKVDYQKIYDLQITLPEPNFVDSQPNQEPVEPSPVKIEK 267
QY 299 ---QNKHQRDEFGKTFKELLDLQHLRLDLKYRHVEEDGLIFEPTQVYIKSNAFGYVPHG 354
Db 268 VPSEENKHASVDEPVEKE-KENVSEV-----VEEKONSQESVEEIPVNE----- 309
QY 355 DHYHIIPRSQLSPELMEADRYLAGQTDNDSDGSDHKSRS---DKEVTHFTLGHRIKAYG 411
Db 310 DEFEDVHTEQLD-----LDHKTYVDEIIVEVEEIPSELHENEVAH----- 348
QY 412 KGIDGKPYDTSDAYVFSK-----ESHSYDKSGVTAKHGDHFHYIGFGELOYELDEV 464
Db 349 -----PEIVEIEVEPPEPNQNNFEQEIENEDDKSA-----HI-----QHEIVEV 386
QY 465 ANNVAKAGQADELVAAEQGKEKPLFDTRKVSRTKDGKVGVIKPKDGKDYFYARYQ 524

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Db 387 -----EELLPEDDKNE-----KVEHEIV---EVEELLPEDDKNE---KQ 419
QY 525 IDLTQIAFAEQELMLKDKKHYR---YDIVDTGIEPRLAADVSSLPMHAGNATYDTGSSFVI 582
Db 420 HEIVEV---EELLPEDDKNEKVEHEIVE---VEELLPEDDKNEKQHE-----I 461
QY 583 PHIDHIVVPYSWILTRNOIATIKY-VMOHPVPRPDVWSKPGHEESSGVIPNVTPLDKRAG 641
Db 462 VEVEET-----LPEDKNEKVEHEIVEVEEILLPEDDKNEKQHEIVEV-EELLPEDK 510
QY 642 MPNMQIHSAEVOKALAEGRFAAPDGYIFDPRDYLAKETFWWKDGSFSIPRADG----- 696
Db 511 --NEKVQHEIVEVEEILLPEDDKNEKQHEIVEVEEILLPEDDKNEK-QQHEIVEVEEILLPE 567
QY 697 -----SSLRTINKSDLSQAEWQOQOELL-----AKNAGDATDTDKPE 734
Db 568 KNEKVQHEIVEVEEILLPEDDKNEKQHEIVEVEEILLPEIVEIEEVPSTNNENIETIKPE 627
QY 735 EKQOQADKSNENQOPSEASKEEKESDDFIDSLPDYGLDRATLEDHINOLAOKANIDPKYL 794
Db 628 EKK-----NEFSVEEK-----AIPQ-----EPVVPILNENENVTTPK--- 658
QY 795 FQPEGVQFYKNGELVTVYD---IKTLQOINP 822
Db 659 -----PSEGESTKPDIVQIKIVQENKP 680

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Search completed: December 3, 2001, 07:16:20
Job time: 149 sec

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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 3, 2001, 07:22:27 ; Search time 370.05 seconds
(without alignments)
616.766 Million cell updates/sec

Title: US-09-645-835A-6
Perfect score: 4363
Sequence: 1 VKKTYGIGSVAILLATHI.....YKNGELVITYDIKTLQGINP 822

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 3148936 seqs, 277657034 residues

Total number of hits satisfying chosen parameters: 3148936

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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14:	/cgn2_6/ptodata/2/paa/US090_COMB.pep:*
15:	/cgn2_6/ptodata/2/paa/US091_COMB.pep:*
16:	/cgn2_6/ptodata/2/paa/US092_COMB.pep:*
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18:	/cgn2_6/ptodata/2/paa/US094_COMB.pep:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
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2	4363	100.0	822	20	US-09-645-835-6 Sequence 6, Appli
3	4363	100.0	822	20	US-09-645-835A-6 Sequence 6, Appli
4	4312.5	98.8	824	18	US-09-471-255-83 Sequence 83, Appli
5	4308	98.7	823	18	US-09-471-255-81 Sequence 81, Appli
6	4283.5	98.2	825	1	PCT-US00-23417-2 Sequence 2, Appli
7	4283.5	98.2	825	20	US-09-645-835-2 Sequence 2, Appli
8	4283.5	98.2	825	20	US-09-645-835A-2 Sequence 2, Appli
9	4157	95.3	793	16	US-09-252-088-15 Sequence 15, Appli

10	4157	95.3	793	16	US-09-252-088B-15	Sequence 15, Appli
11	3758	86.1	715	16	US-09-252-088-16	Sequence 16, Appli
12	3758	86.1	715	16	US-09-252-088B-16	Sequence 16, Appli
13	1054	24.2	819	18	US-09-468-656-10	Sequence 10, Appli
14	1052	24.1	811	18	US-09-471-255-99	Sequence 99, Appli
15	1052	24.1	834	18	US-09-471-255-95	Sequence 95, Appli
16	1041	23.9	830	15	US-09-107-433-4309	Sequence 4309, Ap
17	1039.5	23.8	807	18	US-09-471-255-101	Sequence 101, App
18	1039.5	23.8	838	18	US-09-471-255-14	Sequence 14, Appli
19	1039.5	23.8	838	19	US-09-583-110-5225	Sequence 5225, Ap
20	1035.5	23.7	811	18	US-09-471-255-96	Sequence 96, Appli
21	1035.5	23.7	811	18	US-09-471-255-98	Sequence 98, Appli
22	1035.5	23.7	816	18	US-09-471-255-92	Sequence 92, Appli
23	1034.5	23.7	816	18	US-09-471-255-93	Sequence 93, Appli
24	1034.5	23.7	826	16	US-09-283-094-5	Sequence 5, Appli
25	1034.5	23.7	826	21	US-09-787-826-5	Sequence 5, Appli
26	1033	23.7	805	18	US-09-471-255-100	Sequence 100, App
27	1033	23.7	838	18	US-09-468-656-4	Sequence 4, Appli
28	1028.5	23.6	811	18	US-09-471-255-97	Sequence 97, Appli
29	1024	23.5	819	18	US-09-471-255-73	Sequence 73, Appli
30	1024	23.5	819	18	US-09-471-255-90	Sequence 90, Appli
31	1021.5	23.4	763	19	US-09-536-784-66	Sequence 66, Appli
32	1021.5	23.4	763	21	US-09-765-271-66	Sequence 66, Appli
33	1021.5	23.4	763	21	US-09-765-272-66	Sequence 66, Appli
34	1019.5	23.4	816	18	US-09-471-255-94	Sequence 94, Appli
35	1017.5	23.3	820	18	US-09-471-255-91	Sequence 91, Appli
36	1017	23.3	840	18	US-09-471-255-4	Sequence 4, Appli
37	1017	23.3	851	19	US-09-583-110-3850	Sequence 3850, Ap
38	1000.5	22.9	821	18	US-09-471-255-60	Sequence 60, Appli
39	1000.5	22.9	821	18	US-09-471-255-102	Sequence 102, App
40	999	22.9	690	18	US-09-471-255-79	Sequence 79, Appli
41	995.5	21.9	816	20	US-09-645-835A-7	Sequence 7, Appli
42	955.5	21.9	819	18	US-09-468-656-8	Sequence 8, Appli
43	942	21.6	829	19	US-09-583-110-3851	Sequence 3851, Ap
44	934	21.4	796	19	US-09-536-784-56	Sequence 56, Appli
45	934	21.4	796	21	US-09-765-271-56	Sequence 56, Appli

ALIGNMENTS

RESULT 1
PCT-US00-23417-6
Sequence 6, Application PC/TUS0023417
GENERAL INFORMATION:
APPLICANT: Heinrichs, Jon
APPLICANT: Johnson, Leslie S.
APPLICANT: Koenig, Scott
APPLICANT: Adamou, John E.
TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
FILE REFERENCE: 469201-402
CURRENT APPLICATION NUMBER: PCT/US00/23417
PRIOR FILING DATE: 2000-08-25
PRIOR APPLICATION NUMBER: U.S. 60/150,750
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 6
LENGTH: 822
TYPE: PRT
ORGANISM: Streptococcus agalactiae
PCT-US00-23417-6

Query Match 100.0%; Score 4363; DB 1; Length 822;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 822; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 VKKTYGIGSVAILLATHIGSYQLGKHNGLATKDNQIAYIDSKGKVKAPKTKNTMDQ 60
Db 1 VKKTYGIGSVAILLATHIGSYQLGKHNGLATKDNQIAYIDSKGKVKAPKTKNTMDQ 60

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QY 61 ISAEGISAEQIVVKITDQGYVTSBGDHYHFNKGVYDAIISSEELMTDPNHFKOSDY 120
DB 61 ISAEGISAEQIVVKITDQGYVTSBGDHYHFNKGVYDAIISSEELMTDPNHFKOSDY 120
QY 121 INEILDGVYIKVNGNYYVYLKPGSKRNIRTKQOIAEQVAKGTKEAKEKGLAQVAHLSKE 180
DB 121 INEILDGVYIKVNGNYYVYLKPGSKRNIRTKQOIAEQVAKGTKEAKEKGLAQVAHLSKE 180
QY 181 EVAAVNEAKRQGRYTTDDGYIFSPDTIIDDLGDAYLVPHGNHYHYTPKKDLSPSELAQAQ 240
DB 181 EVAAVNEAKRQGRYTTDDGYIFSPDTIIDDLGDAYLVPHGNHYHYTPKKDLSPSELAQAQ 240
QY 241 AYWQKQGRGARPSPDYRPTAPGRKAPIPDVTNPGQGHQPDNGGYHAPPRPNDASQN 300
DB 241 AYWQKQGRGARPSPDYRPTAPGRKAPIPDVTNPGQGHQPDNGGYHAPPRPNDASQN 300
QY 301 KHORDEFKGTFFKELLDDQLHRLDLKRYHVEEDGLIFEPTQVYIKSNAFGYVVPBGDHYHII 360
DB 301 KHORDEFKGTFFKELLDDQLHRLDLKRYHVEEDGLIFEPTQVYIKSNAFGYVVPBGDHYHII 360
QY 361 PRSOLSPLEMLADRYLAGQTTDDNDSDSHSKPSDKVTHHTFLGHRIRKAYGKGLDGKPYD 420
DB 361 PRSOLSPLEMLADRYLAGQTTDDNDSDSHSKPSDKVTHHTFLGHRIRKAYGKGLDGKPYD 420
QY 421 TSDAYVFSKESHSVDKSGVTAKHGDFHYIGFGELEQYELDEVANWVAKAGQADELVAA 480
DB 421 TSDAYVFSKESHSVDKSGVTAKHGDFHYIGFGELEQYELDEVANWVAKAGQADELVAA 480
QY 481 LDQEQGKEKPLFDTKKVSRTKDKGVYIMPKDKDYFYARYQLDLTQIAFAEQELMLK 540
DB 481 LDQEQGKEKPLFDTKKVSRTKDKGVYIMPKDKDYFYARYQLDLTQIAFAEQELMLK 540
QY 541 DKHRYDIVDTGIEPRLAVDVSSLPMAHGNATYDTGSSFVIPHIDHIVVPSWLTNRQ 600
DB 541 DKHRYDIVDTGIEPRLAVDVSSLPMAHGNATYDTGSSFVIPHIDHIVVPSWLTNRQ 600
QY 601 IATIKYVMQHPEVRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNMQIHSAEVQKALAE 660
DB 601 IATIKYVMQHPEVRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNMQIHSAEVQKALAE 660
QY 661 GRFAAPDGYIFDPRDYLAKETFWWKDGSFIPRADGSSLRTINKSDLSQAEMQAOQELLA 720
DB 661 GRFAAPDGYIFDPRDYLAKETFWWKDGSFIPRADGSSLRTINKSDLSQAEMQAOQELLA 720
QY 721 KKNAGDATDTDKPEEKQADKSNENQOPSEASKESDDFIDSLPDYGLDRATLEDHIN 780
DB 721 KKNAGDATDTDKPEEKQADKSNENQOPSEASKESDDFIDSLPDYGLDRATLEDHIN 780
QY 781 QLAOKANIDPKYLIQPEGVQFYNNKNGELVYTDIKTLQOINP 822
DB 781 QLAOKANIDPKYLIQPEGVQFYNNKNGELVYTDIKTLQOINP 822

RESULT 2
US-09-645-835-6
; Sequence 6, Application US/09645835
; GENERAL INFORMATION:
; APPLICANT: Heinrichs, Jon
; APPLICANT: Johnson, Leslie S.
; APPLICANT: Koenig, Scott
; APPLICANT: Adamou, John E.
; TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
; FILE REFERENCE: 469201-402
; CURRENT APPLICATION NUMBER: US/09/645,835
; PRIOR FILING DATE: 2000-08-25
; PRIOR FILING DATE: 1999-08-25
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 6
; LENGTH: 822
; TYPE: PRT
```

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; ORGANISM: Streptococcus agalactiae
US-09-645-835-6

Query Match 100.0%; Score 4363; DB 20; Length 822;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 822; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VKTTYGYIGSVAAIILATHIGSYQLGKHHMGLATKDNQIAYIDSKGKVKAPKTKNTMDQ 60
DB 1 VKTTYGYIGSVAAIILATHIGSYQLGKHHMGLATKDNQIAYIDSKGKVKAPKTKNTMDQ 60
QY 61 ISAEGISAEQIVVKITDQGYVTSBGDHYHFNKGVYDAIISSEELMTDPNHFKOSDY 120
DB 61 ISAEGISAEQIVVKITDQGYVTSBGDHYHFNKGVYDAIISSEELMTDPNHFKOSDY 120
QY 121 INEILDGVYIKVNGNYYVYLKPGSKRNIRTKQOIAEQVAKGTKEAKEKGLAQVAHLSKE 180
DB 121 INEILDGVYIKVNGNYYVYLKPGSKRNIRTKQOIAEQVAKGTKEAKEKGLAQVAHLSKE 180
QY 181 EVAAVNEAKRQGRYTTDDGYIFSPDTIIDDLGDAYLVPHGNHYHYTPKKDLSPSELAQAQ 240
DB 181 EVAAVNEAKRQGRYTTDDGYIFSPDTIIDDLGDAYLVPHGNHYHYTPKKDLSPSELAQAQ 240
QY 241 AYWQKQGRGARPSPDYRPTAPGRKAPIPDVTNPGQGHQPDNGGYHAPPRPNDASQN 300
DB 241 AYWQKQGRGARPSPDYRPTAPGRKAPIPDVTNPGQGHQPDNGGYHAPPRPNDASQN 300
QY 301 KHORDEFKGTFFKELLDDQLHRLDLKRYHVEEDGLIFEPTQVYIKSNAFGYVVPBGDHYHII 360
DB 301 KHORDEFKGTFFKELLDDQLHRLDLKRYHVEEDGLIFEPTQVYIKSNAFGYVVPBGDHYHII 360
QY 361 PRSOLSPLEMLADRYLAGQTTDDNDSDSHSKPSDKVTHHTFLGHRIRKAYGKGLDGKPYD 420
DB 361 PRSOLSPLEMLADRYLAGQTTDDNDSDSHSKPSDKVTHHTFLGHRIRKAYGKGLDGKPYD 420
QY 421 TSDAYVFSKESHSVDKSGVTAKHGDFHYIGFGELEQYELDEVANWVAKAGQADELVAA 480
DB 421 TSDAYVFSKESHSVDKSGVTAKHGDFHYIGFGELEQYELDEVANWVAKAGQADELVAA 480
QY 481 LDQEQGKEKPLFDTKKVSRTKDKGVYIMPKDKDYFYARYQLDLTQIAFAEQELMLK 540
DB 481 LDQEQGKEKPLFDTKKVSRTKDKGVYIMPKDKDYFYARYQLDLTQIAFAEQELMLK 540
QY 541 DKHRYDIVDTGIEPRLAVDVSSLPMAHGNATYDTGSSFVIPHIDHIVVPSWLTNRQ 600
DB 541 DKHRYDIVDTGIEPRLAVDVSSLPMAHGNATYDTGSSFVIPHIDHIVVPSWLTNRQ 600
QY 601 IATIKYVMQHPEVRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNMQIHSAEVQKALAE 660
DB 601 IATIKYVMQHPEVRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNMQIHSAEVQKALAE 660
QY 661 GRFAAPDGYIFDPRDYLAKETFWWKDGSFIPRADGSSLRTINKSDLSQAEMQAOQELLA 720
DB 661 GRFAAPDGYIFDPRDYLAKETFWWKDGSFIPRADGSSLRTINKSDLSQAEMQAOQELLA 720
QY 721 KKNAGDATDTDKPEEKQADKSNENQOPSEASKESDDFIDSLPDYGLDRATLEDHIN 780
DB 721 KKNAGDATDTDKPEEKQADKSNENQOPSEASKESDDFIDSLPDYGLDRATLEDHIN 780
QY 781 QLAOKANIDPKYLIQPEGVQFYNNKNGELVYTDIKTLQOINP 822
DB 781 QLAOKANIDPKYLIQPEGVQFYNNKNGELVYTDIKTLQOINP 822

RESULT 3
US-09-645-835A-6
; Sequence 6, Application US/09645835A
; GENERAL INFORMATION:
; APPLICANT: Heinrichs, Jon
; APPLICANT: Johnson, Leslie S.
; APPLICANT: Koenig, Scott
; APPLICANT: Adamou, John E.
```


; TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
; FILE OF INVENTION: Vaccines
; FILE REFERENCE: 469201-493
; CURRENT APPLICATION NUMBER: US/09/645,835A
; CURRENT FILING DATE: 2000-08-25
; PRIOR APPLICATION NUMBER: U.S. 60/150,750
; PRIOR FILING DATE: 1999-08-25
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 6
; LENGTH: 822
; TYPE: PRT
; ORGANISM: Streptococcus agalactiae
; US-09-645-835A-6

Query Match 100.0%; Score 4363; DB 20; Length 822;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 822; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VKTGYIGSYAAILLATHIGSYQLGKHHMGLATKDNQIAYIDSKGKVPKPKTKNTMDQ 60
DB 1 VKTGYIGSYAAILLATHIGSYQLGKHHMGLATKDNQIAYIDSKGKVPKPKTKNTMDQ 60
QY 61 ISAEIGISAEQIVKTDGQYVTSFGDHYHFNKGVYDAIISELLMTDPNHYFKQSDV 120
DB 61 ISAEIGISAEQIVKTDGQYVTSFGDHYHFNKGVYDAIISELLMTDPNHYFKQSDV 120
QY 121 INEILDGYIVKNGNYYVYLKPGSKRRNIRTKQIAEQVAKGTKEAKEKGLAQAHLKE 180
DB 121 INEILDGYIVKNGNYYVYLKPGSKRRNIRTKQIAEQVAKGTKEAKEKGLAQAHLKE 180
QY 181 EVAAVNEAKRGRTTDDGYIFSPDTIIDLDGAYLVPHGNHYHYPKKDLSPSELAAQ 240
DB 181 EVAAVNEAKRGRTTDDGYIFSPDTIIDLDGAYLVPHGNHYHYPKKDLSPSELAAQ 240
QY 241 AYWSQKQGRGAPSDYRPTPAPGRKAPIPDVTNPGQGHQPDNGYHAPRPNDASQN 300
DB 241 AYWSQKQGRGAPSDYRPTPAPGRKAPIPDVTNPGQGHQPDNGYHAPRPNDASQN 300
QY 301 KHQDEFKGTFFKELLDLQHLRLDKYRHYVEDGLIFEPTQVKSNAFGYVVPBGDHYHI 360
DB 301 KHQDEFKGTFFKELLDLQHLRLDKYRHYVEDGLIFEPTQVKSNAFGYVVPBGDHYHI 360
QY 361 PRSOLSPLEMLADRYLAGQTDNDSSGSDHSPSKDEVTHTFLGHRIRKAYGKGLDGKPYD 420
DB 361 PRSOLSPLEMLADRYLAGQTDNDSSGSDHSPSKDEVTHTFLGHRIRKAYGKGLDGKPYD 420
QY 421 TSDAYVFSKESHSVDSKGVTAHGHDFHYIGFELLEQYELDEVANWYKAKGQADELVAA 480
DB 421 TSDAYVFSKESHSVDSKGVTAHGHDFHYIGFELLEQYELDEVANWYKAKGQADELVAA 480
QY 481 LDOEQGKEKPLFDTKKVSRYTKDGKGYIMPKDKDYFYARYQLDLTQIAFAEQELMLK 540
DB 481 LDOEQGKEKPLFDTKKVSRYTKDGKGYIMPKDKDYFYARYQLDLTQIAFAEQELMLK 540
QY 541 DKHRYRDIYDTGIEPRLAVDVSSSLPMHAGNATYDTGSSSVIPHTDHIHVPYSWLTNRQ 600
DB 541 DKHRYRDIYDTGIEPRLAVDVSSSLPMHAGNATYDTGSSSVIPHTDHIHVPYSWLTNRQ 600
QY 601 IATIKYVMQHPREVRPDVWSKPGHESSGVIIPNVTPLDKRAGMPNWQIIHSAEEVQKALAE 660
DB 601 IATIKYVMQHPREVRPDVWSKPGHESSGVIIPNVTPLDKRAGMPNWQIIHSAEEVQKALAE 660
QY 661 GRFAAPDGYTFDPRDVLAKETFWKDGSSSIPRADGSSLRTINKSDLSQAEMWQAQELLA 720
DB 661 GRFAAPDGYTFDPRDVLAKETFWKDGSSSIPRADGSSLRTINKSDLSQAEMWQAQELLA 720
QY 721 KKNAGDATDTDKPEEKQADKSNENQPSSEASKEEKESDIDSLPDYGLDRATLEDHIN 780
DB 721 KKNAGDATDTDKPEEKQADKSNENQPSSEASKEEKESDIDSLPDYGLDRATLEDHIN 780
QY 781 QLAQKANIDPKYLIFQPEGVQFYNNKNGELVTTYDIKTLOQINP 822

Db 781 QLAQKANIDPKYLIFQPEGVQFYNNKNGELVTTYDIKTLOQINP 822

RESULT 4
US-09-471-255-83
; Sequence 83, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; CURRENT FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 83
; LENGTH: 824
; TYPE: PRT
; ORGANISM: S. pneumoniae
; US-09-471-255-83

Query Match 98.8%; Score 4312.5; DB 18; Length 824;
Best Local Similarity 98.9%; Pred. No. 0;
Matches 814; Conservative 3; Mismatches 5; Indels 1; Gaps 1;

QY 1 VKTGYIGSYAAILLATHIGSYQLGKHHMGLATKDNQIAYIDSKGKVPKPKTKNTMDQ 60
DB 1 VKTGYIGSYAAILLATHIGSYQLGKHHMGLATKDNQIAYIDSKGKVPKPKTKNTMDQ 60
QY 61 ISAEIGISAEQIVKTDGQYVTSFGDHYHFNKGVYDAIISELLMTDPNHYFKQSDV 120
DB 61 ISAEIGISAEQIVKTDGQYVTSFGDHYHFNKGVYDAIISELLMTDPNHYFKQSDV 120
QY 121 INEILDGYIVKNGNYYVYLKPGSKRRNIRTKQIAEQVAKGTKEAKEKGLAQAHLKE 180
DB 121 INEILDGYIVKNGNYYVYLKPGSKRRNIRTKQIAEQVAKGTKEAKEKGLAQAHLKE 180
QY 181 EVAAVNEAKRGRTTDDGYIFSPDTIIDLDGAYLVPHGNHYHYPKKDLSPSELAAQ 240
DB 181 EVAAVNEAKRGRTTDDGYIFSPDTIIDLDGAYLVPHGNHYHYPKKDLSPSELAAQ 240
QY 241 AYWSQKQGRGAPSDYRPTPAPGRKAPIPDVTNPGQGHQPDNGYHAPRPNDASQN 300
DB 241 AYWSQKQGRGAPSDYRPTPAPGRKAPIPDVTNPGQGHQPDNGYHAPRPNDASQN 300
QY 301 KHQDEFKGTFFKELLDLQHLRLDKYRHYVEDGLIFEPTQVKSNAFGYVVPBGDHYHI 360
DB 301 KHQDEFKGTFFKELLDLQHLRLDKYRHYVEDGLIFEPTQVKSNAFGYVVPBGDHYHI 360
QY 361 PRSOLSPLEMLADRYLAGQTDNDSSGSDHSPSKDEVTHTFLGHRIRKAYGKGLDGKPYD 420
DB 361 PRSOLSPLEMLADRYLAGQTDNDSSGSDHSPSKDEVTHTFLGHRIRKAYGKGLDGKPYD 420
QY 421 TSDAYVFSKESHSVDSKGVTAHGHDFHYIGFELLEQYELDEVANWYKAKGQADELVAA 480
DB 421 TSDAYVFSKESHSVDSKGVTAHGHDFHYIGFELLEQYELDEVANWYKAKGQADELVAA 480
QY 481 LDOEQGKEKPLFDTKKVSRYTKDGKGYIMPKDKDYFYARYQLDLTQIAFAEQELMLK 540
DB 481 LDOEQGKEKPLFDTKKVSRYTKDGKGYIMPKDKDYFYARYQLDLTQIAFAEQELMLK 540
QY 541 DKHRYRDIYDTGIEPRLAVDVSSSLPMHAGNATYDTGSSSVIPHTDHIHVPYSWLTNRQ 600
DB 541 DKHRYRDIYDTGIEPRLAVDVSSSLPMHAGNATYDTGSSSVIPHTDHIHVPYSWLTNRQ 600

QY	601	IATIKYVMQHPEVRP	PDVWSKPGHEESGS	VI	PNVTPLDKRACMP	NWQIIHSAEEVQ	KALAE	660
Db	601	IATIKYVMQHPEVRP	PDVWSKPGHEESGS	VI	PNVTPLDKRACMP	NWQIIHSAEEVQ	KALAE	660
QY	661	GRFAAPDGYIFDP	PRDVLAKETFWMKD	SFSI	PRADGSSLRTIN	KSDSLQAEWQQA	OEELLA	720
Db	661	GRFATPDGYIFDP	RDVLAKETFWMKD	SFSI	PRADGSSLRTIN	KSDSLQAEWQQA	OEELLA	720
QY	721	KNAGDATDTPDK	PEEKQQAADKSN	ENOO	PSEASK - EEKES	SDFTDSL	PDYGLDRATLE	DHI 779
Db	721	KNAGDATDTPDK	PEEKQQAADKSN	ENOO	PSEASK EEKES	SDFTDSL	PDYGLDRATLE	DHI 780
QY	780	NOLAQKANIDPK	YLIFQPEGVQFY	NKNGEL	VTYDIKT	LQOQINP	822	
Db	781	NOLAQKANIDPK	YLIFQPEGVQFY	NKNGEL	VTYDIKT	LQOQINP	823	

```

RESULT 5
US-09-471-255-81
: Sequence 81, Application US/09471255
: GENERAL INFORMATION:
: APPLICANT: BIOCHEM PHARMA INC.
: APPLICANT: HAMEL, Jos,e
: APPLICANT: BRODEUR, Bernard R.
: APPLICANT: PINEAU, Isabelle
: APPLICANT: MARTIN, Denis
: APPLICANT: RIOUX, Cl,ment
: TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
: FILE REFERENCE: 12806-11PCT
: CURRENT APPLICATION NUMBER: US/09/471,255
: CURRENT FILING DATE: 1999-12-23
: PRIOR APPLICATION NUMBER: US 60/113,800
: PRIOR FILING DATE: 1998-12-23
: NUMBER OF SEQ ID NOS: 102
: SOFTWARE: FastSeq for Windows Version 3.0
: SEQ ID NO 81
: LENGTH: 823
: TYPE: PRT
: ORGANISM: S. pneumoniae
US-09-471-255-81

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Query Match	98.7%;	Score 4308;	DB 18;	Length 823;
Best Local Similarity	98.5%;	Pred. No. 0;		
Matches 810;	Conservative	6;	Mismatches 6;	Indels 0;
				Gaps 0;
QY 1 VKTGYIGSVAAIILLATHIGSYOIGKHHMGLATKDNQIAYIDDSKGKVPKPTNKTMDQ 60				
Db 1 VKTGYIGSVAAIILLATHIGSYOIGKHHMGLATKDNQIAYIDDSKGKAPKTKNTKMDQ 60				
QY 61 ISAEGISAEQIVVKITDQGYVTSHGDIHYFYNGKVPYDAIISELLMTDPNYHEKQSDV 120				
Db 61 ISAEGISAEQIVVKITDQGYVTSHGDIHYFYNGKVPYDAIISELLMTDPNYREFKQSDV 120				
QY 121 INEILDGVYIKVNGNYVYVYLKPGSKRKNIRTKQOIAEOVAKGTKEAKEGLAQVAHLSKE 180				
Db 121 INEILDGVYIKVNGNYVYVYLKPGSKRKNIRTKQOIAEOVAKGTKEAKEGLAQVAHLSKE 180				
QY 181 EVAAVNEAKRQGRYTTDDGYIFSPDIIIDDLGDAYLVPHGNHYHYIPKDLSPSELAAQ 240				
Db 181 EVAAVNEAKRQGRYTTDDGYIFSPDIIIDDLGDAYLVPHGNHYHYIPKDLSPSELAAQ 240				
QY 241 AYWSQKQGRGARPSPDYRPTPAPGRKKAPIPDVTPNPGQGHQPDNGGYHAPRRPNDASQN 300				
Db 241 AYWSQKQGRGARPSPDYRPTPAPGRKKAPIPDVTPNPGQGHQPDNGGYHAPRRPNDASQN 300				
QY 301 KHQDFEFGKTFKELLQHLRLDLKYRHYEEDGLIFEPTQVIKSNAGYVVPHGDIHYII 360				
Db 301 KHQDFEFGKTFKELLQHLRLDLKYRHYEEDGLIFEPTQVIKSNAGYVVPHGDIHYII 360				
QY 361 PRSQISPLEMELADRYLAGQTDNDNDSGDSHSPSKDEVTHTFLGHRIRAYGKGLDGKPYD 420				
Db 361 PRSQISPLEMELADRYLAGQTDNDNDSGDSHSPSKDEVTHTFLGHRIRAYGKGLDGKPYD 420				

QY	421	TSDAYVFSKESHSVDKSGVTAKHGHHFYIGFGELEQYELDEVANWVKAKGQADELYAA	480
Db	421	TSDAYVFSKESHSVDKSGVTAKHGHHFYIGFGELEQYELDEVANWVKAKGQADELYAA	480
QY	481	LDQEQKEKPLEDTKKVSRKVTKDGVGYIMPKDKGDYFYARYQDLDTQIAFAEQELMLK	540
Db	481	LDQEQKEKPLEDTKKVSRKVTKDGVGYIMPKDKGDYFYARDQDLDTQIAFAEQELMLK	540
QY	541	DKKHRYRDIYDTGIEPRLAVDVSSLPMHAGNATYDTGSSFEYIPIHDIHVVPYSWLTNRQ	600
Db	541	DKKHRYRDIYDTGIEPRLAVDVSSLPMHAGNATYDTGSSFEYIPIHDIHVVPYSWLTNRQ	600
QY	601	IATIKYVMQHPEVRPVDVWSKPGHEESSVIPNVTPLDKRAGMPNWQIIHSAEEYOKALAE	660
Db	601	IATVKYVMQHPEVRPVDVWSKPGHEESSVIPNVTPLDKRAGMPNWQIIHSAEEYOKALAE	660
QY	661	GREAAPDGYIFDPRDVLAKETFYWKDGSFSIPRADGSSLRTINKSDLSQAEWQOQAELLA	720
Db	661	GREATPDGYIFDPRDVLAKETFYWKDGSFSIPRADGSSLRTINKSDLSQAEWQOQAELLA	720
QY	721	KKNAGDATDTPDKPEEKQOQADKSNENQOQSEASKEEKESDDFIDSLPDYGLDRATLEDHIN	780
Db	721	KKNTGDATDTPDKPEEKQOQADKSNENQOQSEASKEEKESDDFIDSLPDYGLDRATLEDHIN	780
QY	781	QLAOKANIDPKLILFQPEGVQFYNNKNGELVTYDIKTLOQINP	822
Db	781	QLAOKANIDPKLILFQPEGVQFYNNKNGELVTYDIKTLOQINP	822

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RESULT      6
PCT-US00-23417-2
; Sequence 2, Application PC/TUS0023417
; GENERAL INFORMATION:
;   APPLICANT: Heinrichs, Jon
;   APPLICANT: Johnson, Leslie S.
;   APPLICANT: Koenig, Scott
;   APPLICANT: Adamou, John E.
;   TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
;   TITLE OF INVENTION: Vaccines
;   FILE REFERENCE: 469201-402
;   CURRENT APPLICATION NUMBER: PCT/US00/23417
;   CURRENT FILING DATE: 2000-08-25
;   PRIOR APPLICATION NUMBER: U.S. 60/150,750
;   PRIOR FILING DATE: 1999-08-25
;   NUMBER OF SEQ ID NOS: 6
;   SOFTWARE: PatentIn Ver. 2.1
;   SEQ ID NO 2
;   LENGTH: 825
;   TYPE: PRT
;   ORGANISM: Streptococcus pyogenes
PCT-US00-23417-2

```

Query Match	98.2%;	Score 4283.5;	DB 1;	length 825;
Best Local Similarity	98.2%;	Pred. No. 0;		
Matches 810;	Conservative 6;	Mismatches 6;	Indels 3;	Gaps 2;
QY 1	VKKTYGYIGSVAAILLATHIGSYOLGKHHMGLATKDNQIAYIDSCKGVKAPKTNKTMQ	60		
Db 1	VKKTYGYIGSVAAILLATHIGSYOLGKHHMGSATKDNQIAYIDSCKGAKAPKTNKTMQ	60		
QY 61	ISAEEGTSAEQIVVKITDQGYVTSHGHHFYNGKVPYDAIISEELMTDPNYHFKOSDV	120		
Db 61	ISAEEGTSAEQIVVKITDQGYVTSHGHHFYNGKVPYDAIISEELMTDPNYRFKQSDV	120		
QY 121	INELIDGYIVIKVNGNYYVYLKPGSKRKNIRTKQOIAEQVAKGTKEAKEGLAQVAHLSKE	180		
Db 121	INELIDGYIVIKVNGNYYVYLKPGSKRKNIRTKQOIAEQVAKGTKEAKEGLAQVAHLSKE	180		
QY 181	EVAAYVNEAKRQGRYTTDDGYIESPTDIIDDLGDAYLVPHGNHYHYIPKDDLSPSELAQAQ	240		
Db 181	EVAAYVNEAKRQGRYTTDDGYIESPTDIIDDLGDAYLVPHGNHYHYIPKDDLSPSELAQAQ	240		

QY	241	AYWSQKQGRGARPSPDYRPT--PARGRRKAPIPDVT	PNPGCHQHPDNGGYHPAPRRNDAS	298	
Db	241	AYWSQKQGRGARPSPDYRPT	PAPAPGRKKAPIPDVT	PNPGCHQHPDNGGYHPAPRRNDAS	300
QY	299	QNKHORDEFKGTFEKELLDQLHRLDLKYRHVEEDGLIFEPTQVYKSNAFGYVVPHGHHYH		358	
Db	301	QNKHORDEFKGTFEKELLDQLHRLDLKYRHVEEDGLIFEPTQVYKSNAFGYVVPHGHHYH		360	
QY	359	IIPRSQSLPEMELADRYLAGQTDNDNSGSDHKS	PSDKEYTHFLGHRIKAYGKGLDKP	418	
Db	361	IIPRSQSLPEMELADRYLAGQTDNDNSGSDHKS	PSDKEYTHFLGHRIKAYGKGLDKP	420	
QY	419	YDTSDAYVESKESIHSDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVKAKGQADELY		478	
Db	421	YDTSDAYVESKESIHSDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVKAKGQADELA		480	
QY	479	AALDOEQKEKPELFDTKKVS	RKYTKDGKVGyimPKDKDYFYARYQLDLQIAFAEQELM	538	
Db	481	AALDOEQKEKPELFDTKKVS	RKYTKDGKVGyimPKDKDYFYARDQLDLQIAFAEQELM	540	
QY	539	LKDKKHRYRDIYDTGIEPRLAVDVSSLP	MHAGNATYDTGSSFYIPHIDHIHVVPYSMLTR	598	
Db	541	LKDKKHRYRDIYDTGIEPRLAVDVSSLP	MHAGNATYDTGSSFYIPHIDHIHVVPYSMLTR	600	
QY	599	NQIATIKYVMQHEVPRPDVWSKPGHESGSVIPNVT	PLDKRAGMPNWQIIHSAEEYOKAL	658	
Db	601	NQIATIKYVMQHEVPRPDVWSKPGHESGSVIPNVT	PLDKRAGMPNWQIIHSAEEYOKAL	660	
QY	659	AEGRFAAPDGYIFDPRDVLAKETFEVWKDGSFSIP	RADGSSLTINKSDLQAEMOQAOEL	718	
Db	661	AEGRFAATPDGYIFDPRDVLAKETFEVWKDGSFSIP	RADGSSLTINKSDLQAEMOQAOEL	720	
QY	719	LAKKNAGDATPTDTPKEEKQADKSNENQPS	EASK-EEKESDFTDLSLPDYGLDRATLED	777	
Db	721	LAKKNAGDATPTDTPKEEKQADKSNENQPS	EASK-EEKESDFTDLSLPDYGLDRATLED	780	
QY	778	HINOLAQKANIDPKYLIFQPEGVQFY	KNNGELVTYDIKTLQOINP	822	
Db	781	HINOLAQKANIDPKYLIFQPEGVQFY	KNNGELVTYDIKTLQOINP	825	

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RESULT      7
US-09-645-835-2
; Sequence 2, Application US/09645835
; GENERAL INFORMATION:
; APPLICANT: Heinrichs, Jon
; APPLICANT: Johnson, Leslie S.
; APPLICANT: Koenig, Scott
; APPLICANT: Adamou, John E.
; TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
; TITLE OF INVENTION: Vaccines
; FILE REFERENCE: 469201-402
; CURRENT APPLICATION NUMBER: US/09/645, 835
; CURRENT FILING DATE: 2000-08-25
; PRIOR APPLICATION NUMBER: U.S. 60/150,750
; PRIOR FILING DATE: 1999-08-25
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 825
; TYPE: PRT
; ORGANISM: Streptococcus pyogenes
US-09-645-835-2

```

```
Query Match          98.2%; Score 4283.5; DB 20; Length 825;
Best Local Similarity 98.2%; Pred. No. 0;
Matches 810; Conservative 6; Mismatches 6; Indels 3; Gaps 2;
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QY	61	ISAEEGISAEQIVVKITDQGYVTSHGDIHYFYNGKVPYDAIISSELLMTDPNHYFKQSDV	120
Db	61	ISAEEGISAEQIVVKITDQGYVTSHGDIHYFYNGKVPYDAIISSELLMTDPNHYFKQSDV	120
QY	121	INEILDGVYIKVNGNYVYLKPGSKRKNIRTKQOIAEQVAKGTKEAKEKGLAQVAHLSKE	180
Db	121	INEILDGVYIKVNGNYVYLKPGSKRKNIRTKQOIAEQVAKGTKEAKEKGLAQVAHLSKE	180
QY	181	EVAAVNEAKRGGRYTTDDGYIESPTDIIDLDGDAYLVRPHGNHYHYPKKDLSPELSLAAQ	240
Db	181	EVAAVNEAKRGGRYTTDDGYIESPTDIIDLDGDAYLVRPHGNHYHYPKKDLSPELSLAAQ	240
QY	241	AYWSQKQGRGARPSPDYRPT--PAPGRKAPIPDVTPNPGQHQPNDNGGYHPAPRPNDAS	298
Db	241	AYWSQKQGRGARPSPDYRPTPAPAPGRKAPIPDVTPNPGQHQPNDNGGYHPAPRPNDAS	300
QY	299	QNKHQRDEFKGTPEKELLDQLHRLDIKYRHYVEDGLIEPTQYIKSNAFGYVVRPHGDHYH	358
Db	301	QNKHQRDEFKGTPEKELLDQLHRLDIKYRHYVEDGLIEPTQYIKSNAFGYVVRPHGDHYH	360
QY	359	IIPRSQLSPEMELADRYLAGQTTDDNDSGSDHSPSDEKVTHTFLGHRIKAYGKGIDGKP	418
Db	361	IIPRSQLSPEMELADRYLAGQTTDDNDSGSDHSPSDEKVTHTFLGHRIKAYGKGIDGKP	420
QY	419	YDTSDAYVFSKESIHVSVDKSGVTAKHGDIHYIYGFGELEQYELDEVANWVKAKAQADELV	478
Db	421	YDTSDAYVFSKESIHVSVDKSGVTAKHGDIHYIYGFGELEQYELDEVANWVKAKAQADELV	480
QY	479	AALDQEQGKEKPLFDTKKVSRKVTKDGVGYIMPKDKGDIYFARYQLDLTQIAFAEOLM	538
Db	481	AALDQEQGKEKPLFDTKKVSRKVTKDGVGYIMPKDKGDIYFARYQLDLTQIAFAEOLM	540
QY	539	LKDKKHRYRDIYDTGIEPRLAVDVSSIPMHAGNATYDTGSSFYIPIHDIHVVPYSWLTR	598
Db	541	LKDKKHRYRDIYDTGIEPRLAVDVSSIPMHAGNATYDTGSSFYIPIHDIHVVPYSWLTR	600
QY	599	NOIATIKYVMQHEVVRPDVWSKPGHESSGVIPNVTPLDKRAGMPNMOIISAAEEVOKAL	658
Db	601	NOIATIKYVMQHEVVRPDVWSKPGHESSGVIPNVTPLDKRAGMPNMOIISAAEEVOKAL	660
QY	659	AEGREAPRDPGYTFDPRDVLAKETFYWKDGSSFSIPRADGSSLRTINKSDLSQAEMQOAOEL	718
Db	661	AEGREAPRDPGYTFDPRDVLAKETFYWKDGSSFSIPRADGSSLRTINKSDLSQAEMQOAOEL	720
QY	719	LAKKNAGDATIDTDPKEKQOADSNNQOQSEASK-EEKESDDFIDSLPDYGLDRATLED	777
Db	721	LAKKNAGDATIDTDPKEKQOADSNNQOQSEASK-EEKESDDFIDSLPDYGLDRATLED	780
QY	778	HINOLAQKANIDPKYLIQOPEGVOFYNNKNGELVITYDIKITLOQINP 822	
Db	781	HINOLAQKANIDPKYLIQOPEGVOFYNNKNGELVITYDIKITLOQINP 825	

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RESULT      8
US-09-645-835A-2
; Sequence 2, Application US/09645835A
; GENERAL INFORMATION:
; APPLICANT: Heinrichs, Jon
; APPLICANT: Johnson, Leslie S.
; APPLICANT: Koenig, Scott
; APPLICANT: Adamou, John E.
; TITLE OF INVENTION: Pneumococcal Protein Homologs and Fragments for
; TITLE OF INVENTION: Vaccines
; FILE REFERENCE: 469201-493
; CURRENT APPLICATION NUMBER: US/09/645,835A
; CURRENT FILING DATE: 2000-08-25
; PRIOR APPLICATION NUMBER: U.S. 60/150,750
; PRIOR FILING DATE: 1999-08-25
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
;
; LENGTH: 825

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TYPE: PRT
ORGANISM: Streptococcus pyogenes
US-09-645-835A-2

Query Match 98.2%; Score 4283.5; DB 20; Length 825;
Best Local Similarity 98.2%; Pred. No. 0;
Matches 810; Conservative 6; Mismatches 6; Indels 3; Gaps 2;

QY 1 VKKTYGIGSVAAILLATHIGSYOLGKHHMGLATKDNQIAYIDDSKGKVKAPKTKMTMDQ 60
DB 1 VKKTYGIGSVAAILLATHIGSYOLGKHHMGSATKDNQIAYIDDSKGKAKAPKTKMTMDQ 60

QY 61 ISAEEGISAEQIVVKITDQGYVTHSGDHYHFYNGKVPYDAIIESELLMTDPNHFKQSDV 120
DB 61 ISAEEGISAEQIVVKITDQGYVTHSGDHYHFYNGKVPYDAIIESELLMTDPNHFKQSDV 120

QY 121 INEILDGYVIKVNNGNYYVYLKPGSKRKNIRTKQIAEQYAKGTKEAKEKGLAQVAHLKSKE 180
DB 121 INEILDGYVIKVNNGNYYVYLKPGSKRKNIRTKQIAEQYAKGTKEAKEKGLAQVAHLKSKE 180

QY 181 EVAAVNEAKRQGRYTTDDGYIFSPDTIIDDLGDAYLVPHGNHYHYIPKDLSPSELAAQ 240
DB 181 EVAAVNEAKRQGRYTTDDGYIFSPDTIIDDLGDAYLVPHGNHYHYIPKDLSPSELAAQ 240

QY 241 AYWSQKGRGARPSDYRPT - PABGRKAPIPDVTNPGQGHQPDNGGYHPAPRPNDAS 298
DB 241 AYWSQKGRGARPSDYRPTPAPARGRRKAPIPDVTNPGQGHQPDNGGYHPAPRPNDAS 300

QY 299 QNKHQRDEFEKGTFEKELLQHLRLDKYRHNVEEDGLIEPTQVYIKSNAFGYVPHGDHYH 358
DB 301 QNKHQRDEFEKGTFEKELLQHLRLDKYRHNVEEDGLIEPTQVYIKSNAFGYVPHGDHYH 360

QY 359 IIPRSQISPLEMELADRYLAGQTEDDSDSGSDHSPSDEKVTHTFLGHRKAYGKGLDGP 418
DB 361 IIPRSQISPLEMELADRYLAGQTEDDSDSGSDHSPSDEKVTHTFLGHRKAYGKGLDGP 420

QY 419 YDTSDAYVESKESHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVKAKQADELV 478
DB 421 YDTSDAYVESKESHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVKAKQADELV 480

QY 479 AALDQEGKEKPLDFTKKVSRKVTAKDGKGYIMPKDGKDYFYARYQLDLTQIAFAEQELM 538
DB 481 AALDQEGKEKPLDFTKKVSRKVTAKDGKGYIMPKDGKDYFYARYQLDLTQIAFAEQELM 540

QY 539 LKDKKHRYDIVDTGIEPRLAVDVSSLPMAHAGNATYDTGSSFVIRPHIDIHVVPYSWLTR 598
DB 541 LKDKKHRYDIVDTGIEPRLAVDVSSLPMAHAGNATYDTGSSFVIRPHIDIHVVPYSWLTR 600

QY 599 NQIATIKYVMQHPVRPDVWSKGEESGSVIPNVTPLDKRAGMPNWQIHSAEVQKAL 658
DB 601 NQIATIKYVMQHPVRPDVWSKGEESGSVIPNVTPLDKRAGMPNWQIHSAEVQKAL 660

QY 659 AEGRFAPDGYIFDPRDVLAKETFWWKDGSFISIPRADGSSLRTINKSDLSQAEMQAQEL 718
DB 661 AEGRFAPDGYIFDPRDVLAKETFWWKDGSFISIPRADGSSLRTINKSDLSQAEMQAQEL 720

QY 719 LAKKNAGDATDTDKPEEKQADKSNENQOPSEASK - EEKESDDFIDSLPDYGLDRATLED 777
DB 721 LAKKNAGDATDTDKPEEKQADKSNENQOPSEASKESDDFIDSLPDYGLDRATLED 780

QY 778 HINOLAOKANIDPKYLIFQPEGVQFYNNKNGELVTYDIKTLOQINP 822
DB 781 HINOLAOKANIDPKYLIFQPEGVQFYNNKNGELVTYDIKTLOQINP 825

RESULT 9
US-09-252-088-15
Sequence 15, Application US/09252088
GENERAL INFORMATION:
APPLICANT: BRODEUR, Bernard R.
APPLICANT: RIOUX, Clment
APPLICANT: BOYER, Martine

APPLICANT: CHARLEBOIS, Isabelle
APPLICANT: HAMEL, Jose
APPLICANT: MARTIN, Denis
TITLE OF INVENTION: NOVEL GROUP B STREPTOCOCCUS ANTIGENS
FILE REFERENCE: 8331-9002
CURRENT APPLICATION NUMBER: US/09/252,088
CURRENT FILING DATE: 1999-02-18
EARLIER APPLICATION NUMBER: US/60/075,425
EARLIER FILING DATE: 1998-02-20
NUMBER OF SEQ ID NOS: 44
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 15
LENGTH: 793
TYPE: PRT
ORGANISM: group B streptococcus
US-09-252-088-15

Query Match 95.3%; Score 4157; DB 16; Length 793;
Best Local Similarity 98.5%; Pred. No. 0;
Matches 781; Conservative 6; Mismatches 6; Indels 0; Gaps 0;

QY 30 MGLATKDNQIAYIDDSKGKVKAPKTKMTMDQISAEEGISAEQIVVKITDQGYVTHSGDHY 89
DB 1 MGLATKDNQIAYIDDSKGKAKAPKTKMTMDQISAEEGISAEQIVVKITDQGYVTHSGDHY 60

QY 90 HFYNGKVPYDAIIESELLMTDPNHFKQSDYINEILDGYVIKVNNGNYYVYLKPGSKRKN 149
DB 61 HFYNGKVPYDAIIESELLMTDPNHFKQSDYINEILDGYVIKVNNGNYYVYLKPGSKRKN 120

QY 150 RTKQIAEQYAKGTKEAKEKGLAQVAHLKSKEEVAAVNEAKRQGRYTTDDGYIFSPDTIID 209
DB 121 RTKQIAEQYAKGTKEAKEKGLAQVAHLKSKEEVAAVNEAKRQGRYTTDDGYIFSPDTIID 180

QY 210 DLGDAYLVPHGNHYHYIPKDLSPSELAAQAAYWSQKQGRGARPSDYRPTPAPARGRRAPI 269
DB 181 DLGDAYLVPHGNHYHYIPKDLSPSELAAQAAYWSQKQGRGARPSDYRPTPAPARGRRAPI 240

QY 270 PDVTNPGQGHQPDNGGYHPAPRPNDASQNKHQRDEFEKGTFEKELLQHLRLDKYRHN 329
DB 241 PDVTNPGQGHQPDNGGYHPAPRPNDASQNKHQRDEFEKGTFEKELLQHLRLDKYRHN 300

QY 330 EEDGLIEPTQVYIKSNAFGYVPHGDHYIIPRSQISPLEMELADRYLAGQTEDDSDSGSD 389
DB 301 EEDGLIEPTQVYIKSNAFGYVPHGDHYIIPRSQISPLEMELADRYLAGQTEDDSDSGSD 360

QY 390 HSKPSDKEVTHFLGHRKAYGKGLDGPYDTSDAYVFSKESHSVDKSGVTAKHGDHFH 449
DB 361 HSKPSDKEVTHFLGHRKAYGKGLDGPYDTSDAYVFSKESHSVDKSGVTAKHGDHFH 420

QY 450 YIGFGELEQYELDEVANWVKAKQADELVAALDQEGKEKPLDFTKKVSRKVTAKDGKGY 509
DB 421 YIGFGELEQYELDEVANWVKAKQADELVAALDQEGKEKPLDFTKKVSRKVTAKDGKGY 480

QY 510 IMPKDGKDYFYARYQLDLTQIAFAEQELMLKDKHRYDIVDTGIEPRLAVDVSSLPMAH 569
DB 481 IMPKDGKDYFYARYQLDLTQIAFAEQELMLKDKHRYDIVDTGIEPRLAVDVSSLPMAH 540

QY 570 GNATYDTGSSFVIRPHIDIHVVPYSWLTRNQIATIKYVMQHPVRPDVWSKPGHEESGSV 629
DB 541 GNATYDTGSSFVIRPHIDIHVVPYSWLTRDQIATIKYVMQHPVRPDVWSKPGHEESGSV 600

QY 630 IPNVTPLDKRAGMPNWQIHSAEVQKALAEGRFAPDGYIFDPRDVLAKETFWWKDGSF 689
DB 601 IPNVTPLDKRAGMPNWQIHSAEVQKALAEGRFAPDGYIFDPRDVLAKETFWWKDGSF 660

QY 690 SIPRADGSSLRTINKSDLSQAEMQAQELLAKKNAGDATDTDKPEEKQADKSNENQOPS 749
DB 661 SIPRADGSSLRTINKSDLSQAEMQAQELLAKKNAGDATDTDKPEEKQADKSNENQOPS 720

QY 750 EASKEEKESDDFIDSLPDYGLDRATLEDHINOLAOKANIDPKYLIFQPEGVQFYNNKNGEL 809
DB 721 EASKEEKESDDFIDSLPDYGLDRATLEDHINOLAOKANIDPKYLIFQPEGVQFYNNKNGEL 780

QY 810 VTYDIKTLOQINP 822
Db 781 VTYDIKTLOQINP 793

RESULT 10

US-09-252-088B-15

; Sequence 15, Application US/09252088B

; GENERAL INFORMATION:

; APPLICANT: BRODEUR, Bernard R.

; APPLICANT: RIOUX, Clement

; APPLICANT: BOYER, Martine

; APPLICANT: CHARLEBOIS, Isabelle

; APPLICANT: HAMEL, Josee

; APPLICANT: MARTIN, Denis

; TITLE OF INVENTION: NOVEL GROUP B STREPTOCOCCUS ANTIGENS

; FILE REFERENCE: 8331-9002

; CURRENT APPLICATION NUMBER: US/09/252, 088B

; CURRENT FILING DATE: 1999-02-18

; PRIOR APPLICATION NUMBER: US/60/075,425

; PRIOR FILING DATE: 1998-02-20

; NUMBER OF SEQ ID NOS: 45

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 15

; LENGTH: 793

; TYPE: PRT

; ORGANISM: group B streptococcus

US-09-252-088B-15

Query Match 95.3%; Score 4157; DB 16; Length 793;
Best Local Similarity 98.5%; Pred. No. 0;
Matches 781; Conservative 6; Mismatches 6; Indels 0; Gaps 0;

QY 30 MGLATKDNQIAYIDDSKGVKAPKTNKMDQISAEIGISAEQIVVKITDQGYVTSBGDHY 89
Db 1 MGLATKDNQIAYIDDSKGVKAPKTNKMDQISAEIGISAEQIVVKITDQGYVTSBGDHY 60
QY 90 HFYNGKVPYDAIISELLMTDPNHFQSDVINEILDGYVIKVNNGYVYLKPGSKRKNI 149
Db 61 HFYNGKVPYDAIISELLMTDPNHFQSDVINEILDGYVIKVNNGYVYLKPGSKRKNI 120
QY 150 RTKQOIAEQVAKTKEAKEKGLAQAHAHLSKEEVAAVNEAKRQGRYTDDGYIFSPDIIID 209
Db 121 RTKQOIAEQVAKTKEAKEKGLAQAHAHLSKEEVAAVNEAKRQGRYTDDGYIFSPDIIID 180
QY 210 DLGDAYLVPHGNHYIIPKDLSPSELAAQAAYWSQKQGRGARPSDYRPTAPGRKAPI 269
Db 181 DLGDAYLVPHGNHYIIPKDLSPSELAAQAAYWSQKQGRGARPSDYRPTAPGRKAPI 240
QY 270 PDVTPNPGQGHQPDNGCYHAPRPRNDASQKHQRDEFKGTFFKELLDQLHRLDLKRYHV 329
Db 241 PDVTPNPGQGHQPDNGCYHAPRPRNDASQKHQRDEFKGTFFKELLDQLHRLDLKRYHV 300
QY 330 EEDGLIFEPTQVIXSNAFGYVVPBGHDYHIIPRSQLSPLEMELADRYLAGQTDNDSDGSD 389
Db 301 EEDGLIFEPTQVIXSNAFGYVVPBGHDYHIIPRSQLSPLEMELADRYLAGQTDNDSDGSD 360
QY 390 HSKPSDKEVTHTFLGHRIRIKAYGKGLDGKPYDTSDAYVFSKESHSVDSKSVTAKHGDHFI 449
Db 361 HSKPSDKEVTHTFLGHRIRIKAYGKGLDGKPYDTSDAYVFSKESHSVDSKSVTAKHGDHFI 420
QY 450 YIGFGELEQYELDEVANWVAKAGQADELVAALDQEQKEKPLFDTKKVSRTKDKGVGY 509
Db 421 YIGFGELEQYELDEVANWVAKAGQADELVAALDQEQKEKPLFDTKKVSRTKDKGVGY 480
QY 510 IMPKDGKDYFYARYQLDLTQIAFAEQELMLKDKKHRYDYIVDTGIEPRLAVDVSSLPMA 569
Db 481 IMPKDGKDYFYARYQLDLTQIAFAEQELMLKDKKHRYDYIVDTGIEPRLAVDVSSLPMA 540
QY 570 GNATYDTGSSFVIPHIDHIHVVPYSWLTNRQATIKYVMQHPPEVRPDVWSKPGHESSGV 629
Db 541 GNATYDTGSSFVIPHIDHIHVVPYSWLTNRQATIKYVMQHPPEVRPDVWSKPGHESSGV 600

QY 630 IPNVTPLDKRAGMPNMQIIHSAEEVQKALAEGRFAAPDGYIFDPRDYLAKEFVWKDGSF 689
Db 601 IPNVTPLDKRAGMPNMQIIHSAEEVQKALAEGRFAATPDGYIFDPRDYLAKEFVWKDGSF 660
QY 690 SIPRADSSSLRTINKSDLSQAEWQAOELLAKKNAGDATDTDKPEEKQADKSNNQOPS 749
Db 661 SIPRADSSSLRTINKSDLSQAEWQAOELLAKKNAGDATDTDKPEEKQADKSNNQOPS 720
QY 750 EASKEEKESDDFIDSLPDYGLDRATLEDHINQAKANIDPKYLIPOPEGVQFYNNKNGEL 809
Db 721 EASKEEKESDDFIDSLPDYGLDRATLEDHINQAKANIDPKYLIPOPEGVQFYNNKNGEL 780
QY 810 VTYDIKTLOQINP 822
Db 781 VTYDIKTLOQINP 793

RESULT 11

US-09-252-088-16

; Sequence 16, Application US/09252088

; GENERAL INFORMATION:

; APPLICANT: BRODEUR, Bernard R.

; APPLICANT: RIOUX, Clement

; APPLICANT: BOYER, Martine

; APPLICANT: CHARLEBOIS, Isabelle

; APPLICANT: HAMEL, Jose

; APPLICANT: MARTIN, Denis

; TITLE OF INVENTION: NOVEL GROUP B STREPTOCOCCUS ANTIGENS

; FILE REFERENCE: 8331-9002

; CURRENT APPLICATION NUMBER: US/09/252, 088

; CURRENT FILING DATE: 1999-02-18

; EARLIER APPLICATION NUMBER: US/60/075,425

; EARLIER FILING DATE: 1998-02-20

; NUMBER OF SEQ ID NOS: 44

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 16

; LENGTH: 715

; TYPE: PRT

; ORGANISM: group B streptococcus

US-09-252-088-16

Query Match 86.1%; Score 3758; DB 16; Length 715;
Best Local Similarity 98.5%; Pred. No. 2.9e-299;
Matches 704; Conservative 6; Mismatches 5; Indels 0; Gaps 0;

QY 108 MTPPNYHFQSDVINEILDGYVIKVNNGYVYLKPGSKRKNI RTKQOIAEQVAKTKEAK 167
Db 1 MTPPNYHFQSDVINEILDGYVIKVNNGYVYLKPGSKRKNI RTKQOIAEQVAKTKEAK 60
QY 168 EKGIAQVAHLSKEEVAAVNEAKRQGRYTDDGYIFSPDIIIDLGDAYLVPHGNHYIIP 227
Db 61 EKGIAQVAHLSKEEVAAVNEAKRQGRYTDDGYIFSPDIIIDLGDAYLVPHGNHYIIP 120
QY 228 KKDLSPELAAQAAYWSQKQGRGARPSDYRPTAPGRKAPI PDVTPNPGQGHQPDNGCY 287
Db 121 KKDLSPELAAQAAYWSQKQGRGARPSDYRPTAPGRKAPI PDVTPNPGQGHQPDNGCY 180
QY 288 HPAPRPNDASQKHQRDEFKGTFFKELLDQLHRLDLKRYHVEEDGLIFEPTQVIXSNAF 347
Db 181 HPAPRPNDASQKHQRDEFKGTFFKELLDQLHRLDLKRYHVEEDGLIFEPTQVIXSNAF 240
QY 348 GYVVPBGHDYHIIPRSQLSPLEMELADRYLAGQTDNDSDGSD HSKPSDKEVTHTFLGHR 407
Db 241 GYVVPBGHDYHIIPRSQLSPLEMELADRYLAGQTDNDSDGSD HSKPSDKEVTHTFLGHR 300
QY 408 KAYGKGLDGKPYDTSDAYVFSKESHSVDSKSVTAKHGDHFIYIGFGELEQYELDEVANW 467
Db 301 KAYGKGLDGKPYDTSDAYVFSKESHSVDSKSVTAKHGDHFIYIGFGELEQYELDEVANW 360
QY 468 VKAKGQADELVAALDQEQKEKPLFDTKKVSRTKDKGVGY IMPKDGKDYFYARYQLDL 527
Db 541 VKAKGQADELVAALDQEQKEKPLFDTKKVSRTKDKGVGY IMPKDGKDYFYARYQLDL 600

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Db 361 VKAKGQADELAALDQEQKEKPLEDTKKSRSKVTGDKGVGYMMPKDGKDYFYARDQLDL 420
QY 528 TQIAFAEQELMLKDKKHRYRDIYDTGIEPRLADVSSLPMHAGNATYDTGSSFYIPHIDH 587
Db 421 TQIAFAEQELMLKDKKHRYRDIYDTGIEPRLADVSSLPMHAGNATYDTGSSFYIPHIDH 480
QY 588 IHVVPYSLTRNQIATIKYVMQHPVPRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNWQI 647
Db 481 IHVVPYSLTRNQIATIKYVMQHPVPRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNWQI 540
QY 648 IHSAAEVOKALAEGRFATPDGYIFDPRDVLAKETFWWKDGSFSIPRADGSSLRTINKSDL 707
Db 541 IHSAAEVOKALAEGRFATPDGYIFDPRDVLAKETFWWKDGSFSIPRADGSSLRTINKSDL 600
QY 708 SOAEMWQAOELLAKKNAGDATDTDKPEEKQADKSNENQOPSEASKESDESDFIDSLPD 767
Db 601 SOAEMWQAOELLAKKNAGDATDTDKPEEKQADKSNENQOPSEASKESDESDFIDSLPD 660
QY 768 YGLDRATLEDHINOLAQKANIDPKYLIQPEGVQFYNNKNGELVTTYDIKTLOQINP 822
Db 661 YGLDRATLEDHINOLAQKANIDPKYLIQPEGVQFYNNKNGELVTTYDIKTLOQINP 715

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RESULT 12
US-09-252-088B-16
; Sequence 16, Application US/09252088B
; GENERAL INFORMATION:
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: RIOUX, Clement
; APPLICANT: BOYER, Martine
; APPLICANT: CHARLEBOIS, Isabelle
; APPLICANT: HAMEL, Josee
; APPLICANT: MARTIN, Denis
; TITLE OF INVENTION: NOVEL GROUP B STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 8331-9002
; CURRENT APPLICATION NUMBER: US/09/252,088B
; PRIOR FILING DATE: 1999-02-18
; PRIOR APPLICATION NUMBER: US/60/075,425
; NUMBER OF SEQ ID NOS: 45
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO 16
; LENGTH: 715
; TYPE: PRT
; ORGANISM: group B streptococcus
US-09-252-088B-16

```

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Query Match 86.1%; Score 3758; DB 16; Length 715;
Best Local Similarity 98.5%; Pred. No. 2.9e-299;
Matches 704; Conservative 6; Mismatches 5; Indels 0; Gaps 0;

QY 108 MTDPNYHFKQSDVINEILDGYIVKNGNYVYLKPGSKRNIRTKQOIAEQVAKGTKEAK 167
Db 1 MTDPNYHFKQSDVINEILDGYIVKNGNYVYLKPGSKRNIRTKQOIAEQVAKGTKEAK 60
QY 168 EKGAAVHLSKEEVAANVNAKRGRTYTDGYSPTDIIDLDGAYLVPHGNHYIYP 227
Db 61 EKGAAVHLSKEEVAANVNAKRGRTYTDGYSPTDIIDLDGAYLVPHGNHYIYP 120
QY 228 KKDLSPELAAQAYWSOKRGARPSDYRTPAPGRKAPIPDVTNPGQGHQPDNGY 287
Db 121 KKDLSPELAAQAYWSOKRGARPSDYRTPAPGRKAPIPDVTNPGQGHQPDNGY 180
QY 288 HPAPRPNDASQNHQRDEFKGTKEKLDQLHRLDLKYRHVEEDGLIFEPTQVIKSNAP 347
Db 181 HPAPRPNDASQNHQRDEFKGTKEKLDQLHRLDLKYRHVEEDGLIFEPTQVIKSNAP 240
QY 348 GYVPHGHYHIIIPRSQSLPEMELADRYLAGQTDNDSDGSHSKPSDKVTHFTLGHRI 407
Db 241 GYVPHGHYHIIIPRSQSLPEMELADRYLAGQTDNDSDGSHSKPSDKVTHFTLGHRI 300

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QY 408 KAYGKGLDGKPYDTSDAYVFSKESHSVDKSGVTAKHGDHPIYIGFGELEOYELDEVANW 467
Db 301 KAYGKGLDGKPYDTSDAYVFSKESHSVDKSGVTAKHGDHPIYIGFGELEOYELDEVANW 360
QY 468 VKAKGQADELAALDQEQKEKPLEDTKKSRSKVTGDKGVGYMMPKDGKDYFYARDQLDL 527
Db 361 VKAKGQADELAALDQEQKEKPLEDTKKSRSKVTGDKGVGYMMPKDGKDYFYARDQLDL 420
QY 528 TQIAFAEQELMLKDKKHRYRDIYDTGIEPRLADVSSLPMHAGNATYDTGSSFYIPHIDH 587
Db 421 TQIAFAEQELMLKDKKHRYRDIYDTGIEPRLADVSSLPMHAGNATYDTGSSFYIPHIDH 480
QY 588 IHVVPYSLTRNQIATIKYVMQHPVPRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNWQI 647
Db 481 IHVVPYSLTRNQIATIKYVMQHPVPRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNWQI 540
QY 648 IHSAAEVOKALAEGRFATPDGYIFDPRDVLAKETFWWKDGSFSIPRADGSSLRTINKSDL 707
Db 541 IHSAAEVOKALAEGRFATPDGYIFDPRDVLAKETFWWKDGSFSIPRADGSSLRTINKSDL 600
QY 708 SOAEMWQAOELLAKKNAGDATDTDKPEEKQADKSNENQOPSEASKESDESDFIDSLPD 767
Db 601 SOAEMWQAOELLAKKNAGDATDTDKPEEKQADKSNENQOPSEASKESDESDFIDSLPD 660
QY 768 YGLDRATLEDHINOLAQKANIDPKYLIQPEGVQFYNNKNGELVTTYDIKTLOQINP 822
Db 661 YGLDRATLEDHINOLAQKANIDPKYLIQPEGVQFYNNKNGELVTTYDIKTLOQINP 715

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```

RESULT 13
US-09-468-656-10
; Sequence 10, Application US/09468656
; GENERAL INFORMATION:
; APPLICANT: Koenig, Scott
; APPLICANT: Adamou, John E.
; TITLE OF INVENTION: Streptococcus Pneumoniae and Immunogenic Fragments for
; FILE REFERENCE: 469201-444
; CURRENT APPLICATION NUMBER: US/09/468,656
; PRIOR FILING DATE: 1999-12-21
; EARLIER APPLICATION NUMBER: 60/113,048
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO 10
; LENGTH: 819
; TYPE: PRT
; ORGANISM: Streptococcus pneumoniae
US-09-468-656-10

```

```

Query Match 24.2%; Score 1054; DB 18; Length 819;
Best Local Similarity 33.6%; Pred. No. 7.9e-77;
Matches 295; Conservative 103; Mismatches 235; Indels 246; Gaps 34;

QY 1 VKTYGYIGVAAIILATHIGSYOLGKHHMGLATKD-NQIAYIDSKGKVKAPKTKNTMD 59
Db 3 INKRY-LAGSVA--VLAISVCSYELGRYQAGQDKESNRVAYIDGQAGQKA--ENLTPD 57
QY 60 QISAEEGISAEOIVKITTDOGYVTSBGDHYHFNKVPYDAIISELLMTDPNHYFKQSD 119
Db 58 EVSKREGINAEOIVKITTDOGYVTSBGDHYHFNKVPYDAIISELLMTDPNHYFKQSD 117
QY 120 VINEILDGYIVKNGNYVYLKPGSKRNIRTKQOIAEQVAKGTKEAKGLAQAHLK 179
Db 118 IVNEIKGYIVKNGNYVYLKDAHAHADNIRKEIKRQ-----KQERSHN-----HNSR 167
QY 180 EYVAANVNAKRGRTYTDGYSPTDIIDLDGAYLVPHGNHYIIPKDDLSPELAA 239
Db 168 AD-NAVAARAQGRYTTDDGYIFNASDIETGDAYIVPHGDHYIIPKNELASASELAAA 226
QY 240 QAYWSOKRGARPSDYRTPAPGRKAPIPDVTNPGQGHQPDNGGYHPAPRPNDASQ 299

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```
Db 227 EAYWNGKQ--GSRPSSSSSYNA-----NPAQPRLSEHNHNLTVTP----- 263
QY 300 NKHORDEFKGTFFKELLQDLHRDLKRYHVEEDGLIEPTQVKSNAFGYVPHGDHYHI 359
Db 264 TYHON--QGENISSLLRELKAPLSEKHVESDGLIFDPAQITSRTARGVAVPHGNHYHF 320
QY 360 IPRQSPLMELAD---RYLAG-----QTDNDGSDHKSDEKVTHTF 402
Db 321 IPRQMSLEKRIARIIPLRSMNHVWVDSRPEESPQPTPEPSPSPQAPSNP----- 374
QY 403 LGHRKAYGKGLDGKPYDTSADVESKESHSVDSKGVTAHGDHFHYIGFGELEQYELD 462
Db 375 -----IDGK-----LVKEAVRKV-----GDGY-----VFEEN 396
QY 463 EVANWVAKAQADELVAALDOEQKEKPLEDTKVSRYTKDKGVGYIMPDKGKYFYAR 522
Db 397 GVSRYIPAKDLSETAGIDSKLAKQESL--SHKLGTKTD-----LPSSDREFYNKA 447
QY 523 YOLDLTQIAFAEQELMLKDKKHRYDIDVTGIEPRLAVDVSSSLPMHAGNATYDTGSSFYI 582
Db 448 YDL-----LARIHQDLDNKGRQVDFEALDNLLE-RLK-DVSS----- 483
QY 583 PHIDHIVPYSWLTNRQIATIKYVMQHPVEVRPDVWSKPGHEESGSVIPNTPLDKRAGM 642
Db 484 ---DKVKLV-----EDILAFAPIRHE-----RLGK 507
QY 643 PNMOIHSAEVOKALAEGRFAAPDGYIFDPRDLAKETTFVWKDGSFSIPRADGSSLRTI 702
Db 508 PNAQITTYTDEIOVAKLAGKYTAEDGYIFDPRDITSDE----GDAYVTPHMTHS--HWI 560
QY 703 NKSDLSQAEMWQAQELLAKKNAGDATDTDKPEEKQADKSNENQPSA--SKEEKSD 760
Db 561 KKDLSSEARAQAQAYAEKGL-----TPPSTDHQDSGNTTEAKGAELIYNRYKAARKV 613
QY 761 FIDSLP-----DYGLDRA-----TLEDHTNQLAQKA 786
Db 614 PLDRMPYNLOYVEVKNGLIIPHYDHYHNKFEWFDEGLYEAPKGYTLEDLATV----- 669
QY 787 NIDPKYLIFQ-----EGVQFYNNKNGELVT 811
Db 670 ---KYVEHPNERPHSDNGFCGNASDHVQ--RNKNGQADT 703

RESULT 14
US-09-471-255-99
; Sequence 99, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; PRIOR FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 99
; LENGTH: 811
; TYPE: PRT
; ORGANISM: S. pneumoniae
; US-09-471-255-99
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Query Match 24.1%; Score 1052; DB 18; Length 811;
Best Local Similarity 36.1%; Pred. No. 1,1e-76;
Matches 270; Conservative 88; Mismatches 212; Indels 178; Gaps 26;

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QY 22 SYOLGKHHMGLATKD-NQIAYIDDSKGVKAPKTNKTMDOISAEFGISAQIVKITDQG 80
Db 2 SYELGRHOAGQVKKESNRYSYIDGDAQOKA--ENLTPDEVSKREGTNAEQIVIKITDQG 59
QY 81 YVTSHQDHYHFYNGKVPYDAIISELLMTDPNHYFKQSDVINELIDGYVIKNGNYVYL 140
Db 60 YVTSHQDHYHFYNGKVPYDAIISELLMTDPNHYFKQSDVINELIDGYVIKNGNYVYL 119
QY 141 KPGSKRNIRTKQQAQVAKGTKEAKERGLAQAVALSKEEVAVNEAKROGRYTTDDGY 200
Db 120 KDAAHADNIRTKKEIKRQ-----KQERSHN-----HNSRAD--NAVAARAQGRYTTDDGY 168
QY 201 IFSPTDIIDDLGDAYLVPHGNHYHYIPKDLSPSELAAQAQVWSQKQGRGARSPTPT 260
Db 169 IFNASDIIEDTGDAYIVPHGDHYHYIPKSDLSASELAQAQVWNGKQ--GSRPSSSSSHN 226
QY 261 APGRKRAPIPDYTPNPGQGHQRPDNGGYHAPRRPNDASQNKHQDEFKGTFFKELLQDLH 320
Db 227 A-----NPAQPRLSEHNHNLTVTP-----TYHON--QGENISSLLRELY 262
QY 321 RLDLKRYHVEEDGLIEPTQVKSNAFGYVVPHPGDHYHIIPRSQSPLEMLAD---RY 376
Db 263 AKPLSERHVESDGLIFDPAQITSRTANGVAVPHGDHYHFIPYSQSPLEELAKRIIPLY 322
QY 377 LAG-----QTDNDGSDHKSDEKVTHTFGLHRKAYGKGLDGKPYDTS 423
Db 323 RSNHWVDSRPEQSPSPQSTPEPSPSPQAPAPNPQRA-----PSNPIDEK- 365
QY 424 AYVFSKESHSVDSKGVTAHGDHFHYIGFGELEQYELDEVANWVAKAQADELVAALDQ 483
Db 366 ---LVKEAVRKV-----GDGY-----VFEENGVPRIYIPAKDLSETAAGIDS 404
QY 484 EQGKEKPLEDTKVSRYTKDKGVGYIMPDKGKYFYARYQDLTQIAFAEQELMLKDKK 543
Db 405 KLAQESL--SHKLGAKTD-----LPSSDREFYNKAYDL--LARIHQDLDNKGR 451
QY 544 HYRYDIDVTGIEPRLAVDVSSSLPMHAGNATYDTGSSFYIIPHIDHIVPYSWLTNRQIAT 603
Db 452 QYDFEALDNLLE-RLK-DVSS-----DKVKLV-----DILA 481
QY 604 IKYVMQHPVEVRPDVWSKPGHEESGSVIPNTPLDKRAGMPPNMOIHSAEVOKALAEGRF 663
Db 482 FLAPIRHE-----RLGKPNQITTYTDEIOVAKLAGKY 515
QY 664 AAPDGYIFDPRDLAKETTFVWKDGSFSIPRADGSSLRTINKSDLSQAEMWQAQELLAKKN 723
Db 516 TTEDGYIFDPRDITSDE----GDAYVTPHMTHS--HWIKDLSSEARAQAQAYAKEG 568
QY 724 AGDATDTDKPEEKQADKSNENQPSA 751
Db 569 L-----TPPSTDHQDSGNTTEAKGAEA 589
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RESULT 15
US-09-471-255-95
; Sequence 95, Application US/09471255
; GENERAL INFORMATION:
; APPLICANT: BIOCHEM PHARMA INC.
; APPLICANT: HAMEL, Jos,e
; APPLICANT: BRODEUR, Bernard R.
; APPLICANT: PINEAU, Isabelle
; APPLICANT: MARTIN, Denis
; APPLICANT: RIOUX, Cl,ment
; TITLE OF INVENTION: NOVEL STREPTOCOCCUS ANTIGENS
; FILE REFERENCE: 12806-11PCT
; CURRENT APPLICATION NUMBER: US/09/471,255
; PRIOR FILING DATE: 1999-12-23
; PRIOR APPLICATION NUMBER: US 60/113,800
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 95
; LENGTH: 834
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GenCore version 4.5
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OM protein - protein search, using sw model

Run on: December 3, 2001, 07:16:20 ; Search time 39.47 Seconds
(without alignments)
465.231 Million cell updates/sec

Title: US-09-645-835A-7

Perfect score: 4265

Sequence: 1 MKTKKYLVGSAAILLVC.....KLALLKGSNPSSVSKEKIN 816

Scoring table:

BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 212252 seqs, 22503292 residues

Total number of hits satisfying chosen parameters: 212252

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Issued_Patents_AA:*
1: /cgn2_6/ptodata/2/iaa/5A-COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B-COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A-COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B-COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PCTUS-COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	4163	97.6	796	4	US-08-961-083-56 Sequence 56, Appl
2	2661.5	62.4	763	4	US-08-961-083-66 Sequence 66, Appl
3	1186.5	27.8	447	4	US-08-961-083-182 Sequence 182, App
4	152	3.6	783	6	5231168-2 Patent No. 5231168
5	145.5	3.4	1073	4	US-09-541-782-6 Sequence 6, Appl
6	144	3.4	1040	4	US-08-961-083-118 Sequence 118, Appl
7	140	3.3	1503	4	US-08-976-255-14 Sequence 14, Appl
8	140	3.3	2431	1	US-07-920-281C-2 Sequence 2, Appl
9	140	3.3	2431	4	US-08-466-277-2 Sequence 2, Appl
10	135.5	3.2	740	1	US-08-257-073-5 Sequence 5, Appl
11	135.5	3.2	1183	2	US-08-447-031A-2 Sequence 2, Appl
12	135	3.2	2308	1	US-08-015-973-1 Sequence 1, Appl
13	135	3.2	2308	2	US-08-448-164-1 Sequence 2, Appl
14	135	3.2	2308	4	US-08-081-929-2 Sequence 4, Appl
15	133.5	3.1	1507	6	5268270-2 Patent No. 5268270
16	133.5	3.1	1664	2	US-08-642-846-2 Sequence 2, Appl
17	133	3.1	1093	5	PCT-US93-03077-1 Sequence 1, Appl
18	132	3.1	1338	1	US-08-471-033-50 Sequence 50, Appl
19	132	3.1	1338	2	US-08-471-044-50 Sequence 50, Appl
20	132	3.1	1338	2	US-08-463-483A-50 Sequence 50, Appl
21	132	3.1	1338	2	US-08-471-046A-50 Sequence 50, Appl
22	132	3.1	1338	2	US-08-470-566B-50 Sequence 50, Appl
23	132	3.1	1338	2	US-08-469-334-50 Sequence 50, Appl
24	132	3.1	1338	3	US-09-300-529-50 Sequence 50, Appl
25	130.5	3.1	1435	2	US-08-568-459A-4 Sequence 4, Appl
26	130.5	3.1	1435	2	US-08-487-826B-4 Sequence 4, Appl
27	130	3.0	2115	4	US-09-324-867-5 Sequence 5, Appl

28	129	3.0	688	3	US-09-141-047-8 Sequence 8, Appl
29	129	3.0	2860	2	US-08-826-267-2 Sequence 2, Appl
30	128.5	3.0	916	1	US-08-188-228-48 Sequence 48, Appl
31	128.5	3.0	916	1	US-08-332-643-42 Sequence 42, Appl
32	128.5	3.0	916	1	US-08-332-638-48 Sequence 48, Appl
33	128.5	3.0	1848	4	US-08-296-791-6 Sequence 6, Appl
34	128.5	3.0	1848	5	PCT-US95-10661A-6 Sequence 6, Appl
35	128	3.0	1194	2	US-08-488-940-18 Sequence 18, Appl
36	128	3.0	1375	4	US-09-210-361-4 Sequence 4, Appl
37	127.5	3.0	2133	2	US-08-670-707A-37 Sequence 37, Appl
38	127.5	3.0	2133	4	US-08-037-601-37 Sequence 37, Appl
39	127	3.0	1194	2	US-08-488-940-17 Sequence 17, Appl
40	126	3.0	813	2	US-08-488-940-3 Sequence 3, Appl
41	126	3.0	1194	2	US-08-488-940-1 Sequence 1, Appl
42	125.5	2.9	1181	2	US-08-488-940-2 Sequence 2, Appl
43	124.5	2.9	3969	4	US-08-061-376-5 Sequence 5, Appl
44	123	2.9	628	3	US-08-656-034-2 Sequence 2, Appl
45	123	2.9	800	2	US-08-488-940-4 Sequence 4, Appl

ALIGNMENTS

RESULT 1
US-08-961-083-56
Sequence 56, Application US/08961083
Patent No. 6159469
GENERAL INFORMATION:
APPLICANT: Choi et. al.
TITLE OF INVENTION: Streptococcus pneumoniae Antigens and Vaccines
NUMBER OF SEQUENCES: 452
CORRESPONDENCE ADDRESS:
ADDRESSEE: Human Genome Sciences, Inc.
STREET: 9410 Key West Avenue
CITY: Rockville
STATE: Maryland
COUNTRY: USA
ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.4Mb storage
COMPUTER: HP Vectra 486/33
OPERATING SYSTEM: MSDOS version 6.2
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/961,083
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB340P2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
INFORMATION FOR SEQ ID NO: 56:
SEQUENCE CHARACTERISTICS:
LENGTH: 796 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-961-083-56

Query Match 97.6%; Score 4163; DB 4; Length 796;
Best Local Similarity 99.9%; Pred. No. 0;
Matches 795; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 21 SYELGIYQARTVKENNRVSYIDGKQATQKTENTLPDEVSKREGINAEEQIVIKITDQGYVT 80
|||||

```
Db 1 SYELGLYQARTVKENNRVSYIDGQATQKTENTLPDEVSKREGINAEQIVIKITDQGYT 60
QY 81 SHGDHYHYNGKVPYDAIISSELLMKDPNPKLKDEDIVNEVGKGYIKVDGKYYVYLKDA 140
    |||||
Db 61 SHGDHYHYNGKVPYDAIISSELLMKDPNPKLKDEDIVNEVGKGYIKVDGKYYVYLKDA 120
QY 141 AHADNVRTKEEINRQKQEHSGHREGTPRNDGAVALARSGRYTTDDGYIFNASDIIEDT 200
    |||||
Db 121 AHADNVRTKEEINRQKQEHSGHREGTPRNDGAVALARSGRYTTDDGYIFNASDIIEDT 180
QY 201 GDAYIVPHGDHYHYIPKNELSASELAEEAFLSGRGNLSNRTYRRONSDNSTRNWPVS 260
    |||||
Db 181 GDAYIVPHGDHYHYIPKNELSASELAEEAFLSGRGNLSNRTYRRONSDNSTRNWPVS 240
QY 261 VSNPGTTNTNTSNNSNTNSQASQSDIDSLKQLYKPLSQRHVESDGLVFDPAQITTSRT 320
    |||||
Db 241 VSNPGTTNTNTSNNSNTNSQASQSDIDSLKQLYKPLSQRHVESDGLVFDPAQITTSRT 300
QY 321 ARGVAVPHGDHYHYIPYSQMSSELEERARIIPLRYSNHWVPDSRPEQSPQTPPEPSG 380
    |||||
Db 301 ARGVAVPHGDHYHYIPYSQMSSELEERARIIPLRYSNHWVPDSRPEQSPQTPPEPSG 360
QY 381 POPAPNLKIDSNSSLVSQLVKRVGEGYVEEEKISRIVFAKDLPSSETVKNLESKLSQES 440
    |||||
Db 361 POPAPNLKIDSNSSLVSQLVKRVGEGYVEEEKISRIVFAKDLPSSETVKNLESKLSQES 420
QY 441 VSHTLTAKKENVAPRDQEFYDKAYNLTTEAHKALFENKGRNSDFQALDKLERLNDESTN 500
    |||||
Db 421 VSHTLTAKKENVAPRDQEFYDKAYNLTTEAHKALFENKGRNSDFQALDKLERLNDESTN 480
QY 501 KEKLVDDLAFAPITHTPERLGKPNQIEYTEDEVRIAQADKYTTSBGYIFDEHDIISD 560
    |||||
Db 481 KEKLVDDLAFAPITHTPERLGKPNQIEYTEDEVRIAQADKYTTSBGYIFDEHDIISD 540
QY 561 EGDAYVTPHMGSHWIGKDSLSDEKVAQAAYTKEKILPPSPDADYKANPTGDSAAAIY 620
    |||||
Db 541 EGDAYVTPHMGSHWIGKDSLSDEKVAQAAYTKEKILPPSPDADYKANPTGDSAAAIY 600
QY 621 NRKVGKRIPLVRLPYMEVTEVEKNGNLIIPHKDHYHNKFAWFDDHTYKAPNGYTTLED 680
    |||||
Db 601 NRKVGKRIPLVRLPYMEVTEVEKNGNLIIPHKDHYHNKFAWFDDHTYKAPNGYTTLED 660
QY 681 LFATIKYVEHPDERPHSNDGWNASEHVLGKKHSEDPNKFKADEEPEETPAPEVP 740
    |||||
Db 661 LFATIKYVEHPDERPHSNDGWNASEHVLGKKHSEDPNKFKADEEPEETPAPEVP 720
QY 741 QVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRNLTQIMDNNSIMAEAKLLA 800
    |||||
Db 721 QVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRNLTQIMDNNSIMAEAKLLA 780
QY 801 LKGSNPSSVSKEKIN 816
    |||||
Db 781 LKGSNPSSVSKEKIN 796

RESULT 2
US-08-961-083-66
; Sequence 66, Application US/08961083
; Patent No. 6159469
; GENERAL INFORMATION:
; APPLICANT: Choi et. al.
; TITLE OF INVENTION: Streptococcus pneumoniae Antigens and Vaccines
; NUMBER OF SEQUENCES: 452
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Human Genome Sciences, Inc.
; STREET: 9410 Key West Avenue
; CITY: Rockville
; STATE: Maryland
; COUNTRY: USA
; ZIP: 20850
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.50 inch, 1.4mb storage
; COMPUTER: HP Vectra 486/33
```

```
;;
;; OPERATING SYSTEM: MSDOS version 6.2
;; SOFTWARE: ASCII text
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/08/961,083
;; FILING DATE:
;; CLASSIFICATION: 435
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER:
;; FILING DATE:
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Brookes, A. Anders
;; REGISTRATION NUMBER: 36,373
;; REFERENCE/DOCKET NUMBER: PB340P2
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: (301) 309-8504
;; TELEFAX: (301) 309-8512
;; INFORMATION FOR SEQ ID NO: 66:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 763 amino acids
;; TYPE: amino acid
;; STRANDEDNESS: single
;; TOPOLOGY: linear
;; MOLECULE TYPE: protein
;; US-08-961-083-66
```

```
Query Match 62.4%; Score 2661.5; DB 4; Length 763;
Best Local Similarity 66.8%; Pred. No. 1.4e-192;
Matches 520; Conservative 78; Mismatches 131; Indels 49; Gaps 8;
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```
QY 20 CSYELGLYQARTV-KENNRVSYIDGQATQKTENTLPDEVSKREGINAEQIVIKITDQGY 78
    |||||
Db 1 CSYELGRHQAQGVKKESNRVSYIDGDAQQKAENLTPDEVSKREGINAEQIVIKITDQGY 60
QY 79 VTSBGDHYHYNGKVPYDAIISSELLMKDPNPKLKDEDIVNEVGKGYIKVDGKYYVYLK 138
    |||||
Db 61 VTSBGDHYHYNGKVPYDAIISSELLMKDPNPKLKDEDIVNEVGKGYIKVDGKYYVYLK 120
QY 139 DAHADNVRTKEEINRQKQEHSGHREGTPRNDGAVALARSGRYTTDDGYIFNASDIIE 198
    |||||
Db 121 DAHADNVRTKEEINRQKQEHSGHREGTPRNDGAVALARSGRYTTDDGYIFNASDIIE 177
QY 199 DTGDAYIVPHGDHYHYIPKNELSASELAEEAFLSGRGNLSNRTYRRONSDNSTRNWP 258
    |||||
Db 178 DTGDAYIVPHGDHYHYIPKNELSASELAEEAFLSGRGNLSNRTYRRONSDNSTRNWP 226
QY 259 PSVSNPGTTNTNTSNNSNTNSQASQSDIDSLKQLYKPLSQRHVESDGLVFDPAQITS 318
    |||||
Db 227 ANPAQPRLESENHNLVTPTTHQ-NQGENISSLLRELYAKPLSERHVESDGLVFDPAQITS 285
QY 319 RTARGVAVPHGDHYHYIPYSQMSSELEERARIIPLRYSNHWVPDSRPEQSPQTPPEPS 378
    |||||
Db 286 RTARGVAVPHGDHYHYIPYSQMSSELEERARIIPLRYSNHWVPDSRPEQSPQTPPEPS 345
QY 379 PGQPAPNPK-IDSN--SSLVSQLVKRVGEGYVEEEKISRIVFAKDLPSSETVKNLESK 434
    |||||
Db 346 PSQPAPNPPQAPSNPIDEKLVKAVRKVGDGVEENGVSRYTPAKDLSAETPAAGIDSK 405
QY 435 LSKQESVSHTLTAKKENVAPRDQEFYDKAYNLTTEAHKALFENKGRNSDFQALDKLERL 494
    |||||
Db 406 LAKQESLSHKLGAKKTDLPSSDREFFYNKAYDLARIHQDLDNKGRQVDFEALDMLLERL 465
QY 495 NDESTNKEKLVDDLAFAPITHTPERLGKPNQIEYTEDEVRIAQADKYTTSBGYIFDE 554
    |||||
Db 466 KDVSXSDKYKLVXDILAFAPIRHPERLGKPNQAQITTYTDEIQVAKLAGKYYTDEGYIFDP 525
QY 555 HDIISDEGDAYVTPHMGSHWIGKDSLSDEKVAQAAYTKEKILPPSPDADYKANPTGD 614
    |||||
Db 526 RDITSDEGDAYVTPHMTSHWIKKDSLSAEERAAQAAYAKEGLTPPSTDHODSGNTEAK 585
QY 615 SAAAIYNRVKGEKRIPLVRLPYMEVTEVEKNGNLIIPHKDHYHNKFAWFDDHTYKAPN 674
    |||||
Db 586 GAAAIYNRVKAKKVPPLDRMPYNLYQYVEVKNGLIIPHYDHYHNKFEWFEDEGLYEPAPK 645
```

QY 675 GYTLLEDFATIKYVEHPDERPHSNDGNGNASEHVLGKKHSEDPNKNKKADEE----- 728
 Db 646 GYTLLEDFATIKYVEHPDERPHSNDGNGNASEHVLGKKHSEDPNKNKKADEE----- 728
 QY 729 PVEET-----PAPEVPQVETEKYEAQLKEAVLLAKYTD 763
 Db 706 PEEETPREKPKQSEKPEPKPTPEEPSESEEPQVETEKYEAQLKEAVLLAKYTD 763

RESULT 3
 US-08-961-083-182
 ; Sequence 182, Application US/08961083
 ; Patent No. 6159469
 ; GENERAL INFORMATION:
 ; APPLICANT: Chol et. al.
 ; TITLE OF INVENTION: Streptococcus pneumoniae Antigens and Vaccines
 ; NUMBER OF SEQUENCES: 452
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Human Genome Sciences, Inc.
 ; STREET: 9410 Key West Avenue
 ; CITY: Rockville
 ; STATE: Maryland
 ; COUNTRY: USA
 ; ZIP: 20850
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Diskette, 3.50 inch, 1.4mb storage
 ; COMPUTER: HP Vectra 486/33
 ; OPERATING SYSTEM: MSDOS version 6.2
 ; SOFTWARE: ASCII Text
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/961,083
 ; FILING DATE:
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER:
 ; FILING DATE:
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Brookes, A. Anders
 ; REGISTRATION NUMBER: 36,373
 ; REFERENCE/DOCKET NUMBER: PB340P2
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (301) 309-8504
 ; TELEFAX: (301) 309-8512
 ; INFORMATION FOR SEQ ID NO: 182:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 447 amino acids
 ; TYPE: amino acid
 ; STRANDEDNESS: single
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-961-083-182

Query Match 27.8%; Score 1186.5; DB 4; Length 447;
 Best Local Similarity 41.0%; Pred. No. 1.3e-81;
 Matches 263; Conservative 62; Mismatches 110; Indels 207; Gaps 11;

QY 24 LGLYQARTYKENVNRSYIDGKQATQKTENLTPEVSKREGINAQIVIKITDQGVTSHG 83
 Db 1 LNQRSQENKDNKRVSVDGSSQSKSENLTPEVSKREGINAQIVIKITDQGVTSHG 60
 QY 84 DHHYNGKVPYDAIISELLMKDPNYKLKDEDIVNEVKGKGVYIKVDGKYVYLKDAHA 143
 Db 61 DHHYNGKVPYDALFSEELMKDPNYQLKDAIVNEVKGKGVYIKVDGKYVYLKDAHA 120
 QY 144 DNVRTKEETNRQKQEHSGRGTTPRNDGAVALARSGRYTTDDGYIFNASDIIEDTGA 203
 Db 121 DNVRTKEETNRQKQEHSGRGTTPRNDGAVALARSGRYTTDDGYIFNASDIIEDTGA 176
 QY 204 YIVPHGDHYHYIPKNELSASELAFAFLSGRGNLSKRTYRRONSNDTSTNWPVSYSN 263
 Db 177 YIVPHGDHYHYIPKNELSASELAFAFLSGRGNLSKRTYRRONSNDTSTNWPVSYSN 224

QY 264 PGTNTNTSNTNSQASQSDIDSLKQLYKLPLSORHVESDGLVFPDPAQITSRTARG 323
 Db 225 -----NTQSVAKGSTSKPANKSENLOSLKELYDSPAQRYESDGLVFPDPAQITSRTARG 280
 QY 324 VAVPHGDHYHYIPYSQMSLEERARIPLRYSNMHWPDSPRPEQSPQTPPEPSGPQP 383
 Db 281 VAVPHGDHYHYIPYSQMSLEERARIPLRYSNMHWPDSPRPEQSPQTPPEPSGPQP 309
 QY 384 APNLKIDSSSLVSQLVKRYGEGYVFEKGISRYFAKDLPSFTYKNLESKLSQESVSH 443
 Db 310 -----ISGTSTVSTNAK-----PNEVSSLSLSSNPSS--- 339
 QY 444 TLTAKKENVAPRDQEFYDKAYNLLEAHKALFENKGRNSDFQALDKLLERLNDESTNKEK 503
 Db 340 -LTTSKE-----LSSA----- 349
 QY 504 LVDDLAFAPITHPERLGKPNQIEYTEDEVRIAQLADKYTTSDCIIFDEHDIISDEGD 563
 Db 350 -----SDGIIFNPKDIVEETAT 366
 QY 564 AAVTPHMGSHWIGKDSLDEKVAQAATREKGLPPSPDADYKANP-----TGDSA 616
 Db 367 AVTVRHGDHFHYI-----PKSNOIGQPTLPNNSLATPSPSLPI--NPGTSHKHEEDGY 418
 QY 617 AAIYRKVKGKRIPLVRLPYMVEHTVEYKNCNLIIPKDHYH 658
 Db 419 GFDANRIAE-----DESGFVMSHGDNH 442

RESULT 4
 5231168-2
 ; Patent No. 5231168
 ; APPLICANT: DIEGIEL, MORTEN; BORE, MARTIN; JEPSEN, SOREN;
 ; VUUST, JENS; RIENECK, KLAUS; WIND, ANNETTE; JAKOBSEN, PALLE H.
 ; TITLE OF INVENTION: MALARIA ANTIGEN
 ; NUMBER OF SEQUENCES: 19
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/07/409,658
 ; FILING DATE: 18-SEP-1989
 ; SEQ ID NO: 2:
 ; LENGTH: 783
 ; 5231168-2

Query Match 3.6%; Score 152; DB 6; Length 783;
 Best Local Similarity 20.3%; Pred. No. 0.0038;
 Matches 142; Conservative 106; Mismatches 277; Indels 174; Gaps 35;

QY 198 EDTGDATVPHGDHYHYIPKNELSASELAFAFLSGRGNLSKRTYRRQ--NSDNTSRT 255
 Db 35. EESGESKLV-----DNDEGFEAHHEHFSS---EVSNSLENENFEVESDK----- 77
 QY 256 NMVPSVSNPGTTNTNTSNTNSQASQSDIDSLKQLYKLPLSORHVES--DGLV--- 310
 Db 78 -----SVTEPAHEEVVSEESNPEPAENESSIFEAHQE--EIVPEQNDSESGESGLVDNE 131
 QY 311 -----FDPQAQTS-----RTARGVAVPHGDHYHYIPYSQMSLEERARI 351
 Db 132 EGDPEEPNHEEFEPDQNDSELSNELVESSEKSVSEPA--AEHVEIYSEKSVSEPAEHV--EIV 189
 QY 352 PLRYSNMHWPDSPRPEQSPQTPPEPS---PGQAPAPNL---KIDSSSLVSQLVKRYG 404
 Db 190 SEKSTSE--PAEHVESVSEQSNNEPSEKKDGPVPSKPFEEIEKVDVQPKIVD--LQITTE 244
 QY 405 EGYVF-----EEKGISRYFAKDLPSFTYKNLESKLSQESVSH 443
 Db 245 PNEVDSQPNQPEPVSFVKIEKVPSEENKHAASVDPEVKEKENVSEVVEEKQNSQESVEE 304
 QY 452 VAPRDQEFYDKAYNLLEAHKA-----LFENKGRNSDFQALDKLLERLNDE 497
 Db 305 IPVNEDEFEDVHTQDLDDHKTVDPEIYVEVEIIPSELHENEVAHPEIVEIEVEPEEPNQN 364

QY	498	STNKEKLVDDLFLA-PITHERLGRKPSOIETYUDE-VRIAQLADKYTTSDCYIIFDEH	555
		: : : : : : : : : :	
Db	365	NEFOEINEDDKSAHIQHEIVEVEEILPEDDKNEKVEHEIIVEVEEILPEDKNEK----	QH 420
QY	556	DIISDEGDAYVTPRMGSHWIGKDSLSDKEKVAQAAYTKEGILPSPPDADYKANPTGDS	615
		: : : : : : : : : : :	
Db	421	EIVEVE---ELPR-----DDKNEKVEHEIIVEVEILP--EDKNEKGQHEIVE	463
QY	616	AAAIYNRVKGEKRIPLVRLPYMVEH-TVEVKNGNLIIPKHDYHNKIFAWFDDHTYKAPN	674
		: : : :	
Db	464	VEEILPEDKNEK-----VEHEIIVEVE--ILPEDKNEK-----QHEIIVEE	503
QY	675	GTYLEDLFATIKYVEVHPDE-RPHSNDGWGNAS---EHVLGKKDHE-----	717
		: : : : : : : : : : :	
Db	504	EILPEDKNEKVQHEIVEVEEILPEDKNEKGQHEIVEVEEILPEDKNEKGQHEIVEVEEIL	563
QY	718	-DPNKNFKADEEPEVETPAPEVPVQVETEKEVAQLKEAEVLLAKVTDSSLKANATETLAG	776
		: : : : : : : : : :	
Db	564	LPEDKNEKVQHEIVE---VEEILPEDKNEKVQHEIVEVEEILPEIVE-----IEEVP SQ	614
QY	777	LRNNLTLQIMDNNSITMAEAKLLALLKGSNPSYSKEKI	815
		: : : : : : : : : :	
Db	615	TNNNENIE-----TIKPEEK-----NEFSVEEKAI	640

```

RESULT 5
US-09-541-782-6
; Sequence 6, Application US/09541782
; Patent No. 6284480
; GENERAL INFORMATION:
; APPLICANT: Nislow, Corey
; APPLICANT: Sakowicz, Roman
; APPLICANT: Beraud, Christophe
; TITLE OF INVENTION: Antifungal Assay
; FILE REFERENCE: 1015
; CURRENT APPLICATION NUMBER: US/09/541,782
; CURRENT FILING DATE: 2000-04-03
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 1073
; TYPE: PRT
; ORGANISM: S.pombe
US-09-541-782-6

```

Query Match	3.4%;	Score 145.5;	DB 4;	Length 1073;
Best Local Similarity	18.6%;	Pred. No. 0.019;		
Matches 182;	Conservative 136;	Mismatches 357;	Indels 301;	Gaps 41;

```

0Y      43 GKQATOKTENLTPDEVSKREGINAE-----QIVIKI--TDQGYVTSQBDHYHYHN 90
        | : | | | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : |
Db      147 GGTGCTKTYTMSGD-LSDSDGILISEGAGLIPRALYQLFSSLDNSNQEYAVK-CSYEELYN 204

0Y      91 GKVPYDAIISEELLMKDPNYKKLED-----IVNEVKGGYVIKVKGKYVVYLKDAAHADN 145
        | : | : | | | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : |
Db      205 EEI-RDLVSEEL--RKPARYFEEDTSRRGNVITGIEESY-ICKNAGDGLRLLRBSHRRO 260

0Y      146 VRTKEEINKOQEHS-----QHRECGTPRNDAVALARSGRYTTDDGIIFNASDIIEDT 200
        | : : : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : |
Db      261 VAATKCNDLSRSRHSIFTTLHKKVSSGMTDETNSLTINN-----NSDDLRL-- 307

0Y      201 GDAYIVPHGDHYHI PKNELSASELAEEAFLSGRGNLSNRT----- 243
        | : : : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : |
Db      308 -----ASKLMHVDLAGESENI--GRSGAENKRARETGMINOSLTLGRVI 349

0Y      244 -----YR-----RONSNTSRTNWVPVSYPNGTTNTNTSNNSNTNSQASQS 284
        || : : : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : |
Db      350 NALVEKAHHIPRESKLTIRLLQDSLGGKTQTSMTVTVS--STNTNLREETISTLEYIARA 406

0Y      285 NDIDSLLKQLYKLPLSQRHVESDGLVFDEAOI---TSRTARGVAVPHGDHYHFITYSO 339
        | : : : : | : : | : : | : : | : : | : : | : : | : : | : : | : : | : : |
Db      407 K---SIRNKPPQNOLVERFKVLIKDLVLEIERLKNDLNATRKKKNQGVYLAESTYKELMDRVQ 463

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QY	340	MSEL----	EERIARIIPLRYSNHWYPD	SREQPSQPOTPEPSPGPQAPADNIKI-----	389
Dd	464	NKDLLCQEQARKLEYDLNVKS-----	SRELQVSKSNQEHKKEVEALQLOLVNSSTE	517	
QY	390	-----DSNSSVLVSQLVKRKVGEGYVFEEKGISRYVFAKDIPSETVKNLISKISKOESVSH	444		
Dd	518	LESVKSENEKLKNELVLEIEKRKKYEETNEAKITTVATDLSQQYYRESKEYIASLYEKLDR	577		
QY	445	LTAKENVAPRDOEFYDKAYNLL-----	TEAH	471	
Dd	578	ERNKEN-----ENNFMNLKENLTLMLRSFHSFTDETNGYFTLLINDFNASMEELLNTHSN	633		
QY	472	KALFEKGGRNSDFQALDKLLER-----	LNDESTNKEKLVDDLAFAPIT	516	
Dd	634	QLLISMKTITEHFQSDEALQOSARSSCAVPNSSLDLIYSELKSDSKNSLLDALEHSLQDIS	693		
QY	517	-HPERLCKPNS-----	QIETYEDE-----VR--IAOL	540	
Dd	694	MSSQKLGNCISSIELIQDKMKESYROLVQELRLSYNLQHTHESESOKELMYGVRNDIDAL	753		
QY	541	ADKYTTSS--DGYIFDEHDITSDEGDAYVTPHMGSHWIGKDSLDEKVAQAQAYTKKEGI	598		
Dd	754	VKTCTTSLNDADIILSDYISDQKSKFESKQODLIANIGKIVSNPLQEO NESLYTK----	808		
QY	599	LPSPDADYKANPTGDSAAM--YNRVKG EKRIPLVR-----	LPYMEHTEVEVK	645	
Dd	809	-----ADILHSHLNDTNSNRKAN EIMNNRSEEBELRNAASQAETIVGANKERIOKTIVE--	860		
QY	646	NGNLIIPH KD H- YHN IKFAWFDDHTYKAPNG-----	YTLEDLFATIKYVVEHPDERP	696	
Dd	861	NGSOLLDSKSAIHNSRSRMWDHCLALAESQOGVNLEVOTLDRLOKVK-----	E	911	
QY	697	HSNDGWGNASEHV LGKKDHSEDPNKNFKADEEPVEETPAPEVPOVETE KEV EAQLKEA EV	756		
Dd	912	HSEDNTKEKHQOLL D LLES VLG NDN L-----	IDSIKPHTELO-----	:950	
QY	757	LLAKVTDSSLK-----ANATE TLAGLRN-----	NLTQIOMDNNSIMA EA -----EKLLA	800	
Dd	951	---KITDHVLKGTISLANHTNELLGDESICNLET TIEDTS LVKLETTGDT PPSKRELPA	1007		
QY	801	LLKGSNPSSSVSKEKIN	816		
Dd	1008	TPSWTRDSSLIKEETTIN	1023		

```

1  RESULT 6
2  US-08-961-083-118
3  ; Sequence 118, Application US/08961083
4  ; Patent No. 6159469
5  ;
6  ; GENERAL INFORMATION:
7  ; APPLICANT: Choi et. al.
8  ; TITLE OF INVENTION: Streptococcus pneumoniae Antigens and Vaccines
9  ; NUMBER OF SEQUENCES: 452
10 ;
11 ; CORRESPONDENCE ADDRESS:
12 ; ADDRESSEE: Human Genome Sciences, Inc.
13 ; STREET: 9410 Key West Avenue
14 ; CITY: Rockville
15 ; STATE: Maryland
16 ; COUNTRY: USA
17 ;
18 ; ZIP: 20850
19 ;
20 ; COMPUTER READABLE FORM:
21 ; MEDIUM TYPE: Diskette, 3.50 inch, 1.4mb storage
22 ; COMPUTER: HP Vectra 486/33
23 ; OPERATING SYSTEM: MSDOS version 6.2
24 ;
25 ; SOFTWARE: ASCII Text
26 ;
27 ; CURRENT APPLICATION DATA:
28 ; APPLICATION NUMBER: US/08/961,083
29 ;
30 ; FILING DATE:
31 ;
32 ; CLASSIFICATION: 435
33 ;
34 ; PRIOR APPLICATION DATA:
35 ;
36 ; APPLICATION NUMBER:
37 ;
38 ; FILING DATE:
39 ;

```


QY		280	QASQNSNDIDSLKQLYKLPLSORHVESDG-----LVFPDPAQITSRITARGVAVPHGDHYH	333
Dd		772	QFAENKPGLSLL-----QENVSTKGDDTDVMLTGDTLSTLSQSSPEVOVP-----	816
QY		334	FIPYSQMSLEERARIPIPLRYRSNMHWPDSDRPEQSPPOPT-----PEP-----SPGP	381
Dd		817	--PTS--FETRETPRRV-----PPDSLPTQGETOPTCLADVIYPEDCLHODISPDA	862
QY		382	QPAPNLKIDSNSLSVLVRKVGEGYVEEKEGISRYVFAKDLPSFTYKNLESKLSQESV	441
Dd		863	VTVP-VELISTDARTHSLDNR-----SQDSPGESEETIL--RLTESDSV	902
QY		442	-SHTLTAKKENAVPR---DOEFYDKAYNLLTEAHKALFENKGRNSDFQALDK-----	489
Dd		903	LADDILASRVSYSGSLPELGQELHNKPFSIEDHHSHRLEKNLEAVETLNOLNSKDAKEA	962
QY		490	-LLERLNDESTNKEXVDLLAFAPITHPERIGKPNISOIETEDEVRIAGLADKYTTSD	548
Dd		963	GLVSALSDDSTSQSDLEDLSLAPFPASEPS-LETPPDS-LESV-----	1003
QY		549	GIYFEDEHDIIISDEGDAAVTTPHMGSHWIGKDSLSDEKEVAQAAYTKE----KGIPLPSP	603
Dd		1004	----DVHEALLDLSLSH-TPr-----QKLVPBPKPADSGYETENLESPEWTLLHPAP	1048
QY		604	DADVKANP--TGDSAALIYNRKVGKEKRIPLVRLPYWVEHTVEVKNGNLIIPHKHYYHNIK	661
Dd		1049	EGTADSEPATYGGDGHSGH-----GLRPNPVI---VISDAGDGHGREVTPr-----	1089
QY		662	FAWFDDHTYKAPNGYTLEDLFATIKYUYVEHPDERPHSNDGWGNASEHVLGKKDHSEDPNK	721
Dd		1090	-----ETFTAGSQGSYRD-----SAFYSDNDSEPEKR-----SEEVPG-----TSFSA	1127
QY		722	NFKADEEPVEETPAPEVPQVETEKEVEAQLKAE--VLLAKVTDDSLKANAT	771
Dd		1128	LVLVQEOPLPPEPVLPQSPAADSCLFARKSQPDESCLSLAHNSSDLELRAT	1179

RESULT 8
US-07-920-281C-2
Sequence 2, Application US/07920281C
Patent No. 5739026
GENERAL INFORMATION:
APPLICANT: Garoff, Henrik
APPLICANT: Liljestrom, Peter
TITLE OF INVENTION: DNA Expression Systems Based on
TITLE OF INVENTION: Alphaviruses
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESSES:
ADDRESSEE: Birch, Stewart, Kolasch & Birch
STREET: P.O. Box 747
CITY: Falls Church
STATE: Virginia
COUNTRY: USA
ZIP: 22040-0747
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/920,281C
FILING DATE: 13-AUG-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Murphy Jr., Gerald M.
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 828-103P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-241-1300
TELEFAX: 703-241-2848
TELEX: 248345
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:

```

; LENGTH: 2431 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-920-281C-2

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Query Match	3.38;	Score 140;	DB 1;	Length 2431;
Best Local Similarity	19.7%;	Pred No. 0.18;		
Matches 137;	Conservative	93;	Mismatches 253;	Indels 212;
				Gaps 34;

QY	76	QGVTSHGDHYHYNG-KVPYDAIISELLMKDPNYKLKDEDIYNEVKGGVYIKVDKXY	134
Db	1523	KGYSTTDGSLSYIEGTGFKNQOAIDMAEILTLWPRLOEANEQICLYALGETM-----	1574
QY	135	VYLKDAHADNVRTKEEINKQOEHSQHREGTPRNDGAVALARSQGRYTTDDGYIFNAS	194
Db	1575	-----DNIRSKCPVN-----DSDSTTPRPT-VPCLCR-----YAMTAE	1606
QY	195	DIEDTG-----DAYIVPHGDHYHYIPKNELLSASELAALAEFLSGRNLNSRITYR	245
Db	1607	RIARLRSHQVKSMVVCSSFFLP---KYHVDGVQVKCEKVLFFDPYV---SVSPRKYA	1660
QY	246	RQNSDNTSRT-----NMVPSVSNPGTTNTNTNSNNTNSQASQSNIDISLLKQLYKPL	299
Db	1661	ASTTDHSDRSLRGFDLDW-----TTDSSSTASDMSLPSLOSCDIDSIYEPMPIV	1712
QY	300	-SQRHVESDGLVFDPQAQTSRTARGVAVPHGDHYHFIPIYSQMSLEERIAIIPLYRSN	358
Db	1713	TADVHPEPAGIADLAADVHPEPA-----DHV-----DLENPIR---PPRPKRA	1752
QY	359	HWVPDSRPEQSPQPTPEPSPQOPAPNPKI-----DSNSSLVSQLYRKVGEVFEKKG	413
Db	1753	AYLASRAAERPVPAPR-KPTPAPRTAFRNKLPITFGEDDEHEVDALASGITFGDPFDVLR	1811
QY	414	ISR---YVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLLTEA	470
Db	1812	LGRAGAYTFSSDTGS--GHLOOKSVRQ---HNLQCAQIDAVQEEKMYPRK---LDTER	1861
QY	471	HKALF-----ENKGRNSDFQALDKLERLNDESTKEKLVDDLAFIAP---ITHP	518
Db	1862	EKLLLKMQMHPSEANKSRYSQ-SRVEYNMKATVVDRLTSGARLYTGADVGRIPITYAVRP	1920
QY	519	ERLGKPNQIEYTEDEVRIA---QLADKYTTSBGY-IFDEHDIISDEGDAYVTPHMGHS	573
Db	1921	RPVYSPTVIERFSSPDVAIAACNEYLSRNPYPTVASQITDEYDAYLDMDV-----	1970
QY	574	HWIGKDSLSDKE--KVAQAQYTFKEGT-----LPPSP-----DADVKAN-----	610
Db	1971	---GSDSCLDRATFCPAKLRCYPKHHAHYHQPTVRSAVSPSQNTLQNVLAATKRNCAVT	2027
QY	611	-----PTGDSAAAIYN-----RVKGEKR-----	628
Db	2028	QMRLLPTMDS-AVFNVCECFKRYACSGEYWEYAKOPIRITTENTITTYVTTKLGPKAAL	2085
QY	629	-----IPLVRLEPYMVEHTVEVKNGNLIIPHKDH	656
Db	2086	FAKTHNLVPLQEVF-MDRFTVDMKRDVKYTFEGTKH	2119

RESULT 9
 US-08-466-277-2
 ; Sequence 2, Application US/08466277
 ; Patent No. 6190666
 ; GENERAL INFORMATION:
 ; APPLICANT: Garoff, Henrik
 ; Liljestrom, Peter
 ; TITLE OF INVENTION: DNA Expression Systems Based on
 ; Alphaviruses
 ;
 ; NUMBER OF SEQUENCES: 27
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Birch, Stewart, Kolasch & Birch
 ; STREET: P.O. Box 747
 ;

```

: CITY: Falls Church
: STATE: Virginia
: COUNTRY: USA
: ZIP: 22040-0747
:
: COMPUTER READABLE FORM:
: MEDIUM TYPE: floppy disk
: COMPUTER: IBM PC compatible
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patentin Release #1.0, Version #1.25
:
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/466,277
: FILING DATE: 06-Jun-1995
: CLASSIFICATION: <Unknown>
:
: PRIOR APPLICATION DATA:
: APPLICATION NUMBER: 07/920,281
: FILING DATE: <Unknown>
: ATTORNEY/AGENT INFORMATION:
: NAME: Murphy Jr., Gerald M.
: REGISTRATION NUMBER: 28,977
: REFERENCE/DOCKET NUMBER: 828-103P
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: 703-241-1300
: TELEFAX: 703-241-2848
:
: INFORMATION FOR SEQ ID NO: 2:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 2431 amino acids
: TYPE: amino acid
: TOPOLOGY: linear
: MOLECULE TYPE: protein
: SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-08-466-277-2

```

```

Query Match      3.3%; Score 140; DB 4; Length 2431;
Best Local Similarity 19.7%; Pred. No. 0.18;
Matches 137; Conservative 93; Mismatches 253; Indels 212; Gaps 34;

QY 76 QGYVTSKGDHYHYNG-KVPYDAIISELLMKDPNYKDKEDIVNEVKGKGVYKVDGKY 134
Db 1523 KGYSTTDGSLSYFEGTKFNQAIIDMAELTLPRLQNEQICLYALGETM----- 1574

QY 135 VYKDAHADNVRTKEINRQKQHSQHRGCTPRNDGAVALARSGRYTTDDGYIFNAS 194
Db 1575 -----DNIRSKCPVN-----DSDSTPRT-VPCLCR-----YAMTAE 1606

QY 195 DIEDTG-----DAYIVPHGDHYHYIPKNLSASELAEAFLSGRNLNSRYR 245
Db 1607 RIARLRSHQVKSVMVCSFPLP---KYHVDGVQKVKCEKVLLEPPTVP---SVVSPKRYA 1660

QY 246 RQNSDNTSRT-----NWVPSVSNPGTNTNTSNTNSQASOSNDIDSLKQLYKLP 299
Db 1661 ASTTDHSDRLRGFDLDW-----TIDSSSTASDTMSLPISQSCDIDISTIEPMADIV 1712

QY 300 -SQRHVESDGLVDPQAQITSRARGVAVPHGDHYHFTIPYSQMSLEERIRIPIPLRRSN 358
Db 1713 TADVHPPEAGIADLADVHPEA-----DHV-----DLENPIR---PPRPKRA 1752

QY 359 HWVPDSRPEQSPQPTPEPSPGPQAPNLKI-----DSNSSLVSQLVKRVGEGYVEEKG 413
Db 1753 AYLASRAAERYVPAPR-KPTPAPRIARFNKLPLTFGDFDEHEVDALASGITFGDDVLR 1811

QY 414 ISR---YVFAKDLPSSETVKNLESKISKQESVSHTLTAKKENVAPRDOEFYDKAYNLLTEA 470
Db 1812 LGRAGAYIFSSDTS---GHLQOKSVRQ---HNLQCADLDAVQEEKMYPK---LDTER 1861

QY 471 HKALF-----ENKGRNSDQALDKLERLNDESTNKEKLVDDLAFIAP---ITHP 518
Db 1862 EKLILLKMQMHPSEANKSRYS-RKEVNMKATVVDRLTSGARLYTGADVGRIPYAVRYP 1920

QY 519 ERLGKPNQIETYTEDEVRIA-----QLADKYTTSQGY-IFDEHDIISDEGDAYVTPHMGHS 573
Db 1921 RPYVSPYIVIERFSSPDVAIAACNBYLSRNPYTVASQYITDEYDAYLDMVD----- 1970

```

```

QY 574 HWIGKDSLSDEK---KVAQAVTKEGI-----LPPSP-----DADVKAN----- 610
Db 1971 ---GSDSCLDRATFCPAKLRCPKHAYHOPTVRSVAVSPFQNTLQNVLAATKRCNVT 2027

QY 611 -----PTGDSAAAIYN-----RVKGEKR--- 628
Db 2028 QMRLEPTMDS--AVFNVECPKRYACSGEYWEYAKQPIRITTENTTYVTYTKLKGPKAAAL 2085

QY 629 -----IPLVRLPYMVEHTVEVKNGLIIPKDH 656
Db 2086 FAKTHNLVPLQVVP-MDRETVDMKRDVKVTPGTGH 2119

```

```

RESULT 10
US-08-257-073-5
: Sequence 5, Application US/08257073
: Patent No. 5766597
: GENERAL INFORMATION:
: APPLICANT: Paolletti, Enzo
: APPLICANT: de Taisne, Charles
: TITLE OF INVENTION: MALARIA RECOMBINANT POXVIRUS VACCINE
: NUMBER OF SEQUENCES: 143
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Curtis, Morris & Safford, P.C.
: STREET: 530 Fifth Avenue, 25th Floor
: CITY: New York
: STATE: New York
: COUNTRY: UNITED STATES OF AMERICA
: ZIP: 10036
:
: COMPUTER READABLE FORM:
: MEDIUM TYPE: floppy disk
: COMPUTER: IBM PC compatible
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patentin Release #1.0, Version #1.30
:
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/08/257,073
: FILING DATE: 09-JUN-1994
: CLASSIFICATION: 424
: PRIOR APPLICATION DATA:
: APPLICATION NUMBER: US 08/075,783
: FILING DATE: 11-JUN-1993
: PRIOR APPLICATION DATA:
: APPLICATION NUMBER: US 07/852,305
: FILING DATE: 18-MAR-1992
: PRIOR APPLICATION DATA:
: APPLICATION NUMBER: US 07/672,183
: FILING DATE: 20-MAR-1991
: ATTORNEY/AGENT INFORMATION:
: NAME: Frommer, William S.
: REGISTRATION NUMBER: 25,506
: REFERENCE/DOCKET NUMBER: 454310-2570
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: (212) 840-3333
: TELEFAX: (212) 840-0712
: TELEX: 425066 CURTMS
: INFORMATION FOR SEQ ID NO: 5:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 740 amino acids
: TYPE: amino acid
: STRANDEDNESS: single
: TOPOLOGY: linear
: MOLECULE TYPE: peptide
: FRAGMENT TYPE: internal
US-08-257-073-5

```

```

Query Match      3.2%; Score 135.5; DB 1; Length 740;
Best Local Similarity 17.7%; Pred. No. 0.061;
Matches 145; Conservative 109; Mismatches 262; Indels 305; Gaps 35;

QY 4 NKKYLV---GSAAILISVCYELGLYQARTVKENNRRVSYIDGKQATQKTENTLPDEVSK 60

```



```

Db 515 GYTKKENGCL--VVTNTEKPIETTSISGEKVDKDNQDGKRPKEKSVNLLANGKVKTLTD 572
QY 457 -----QEF-----YDKAYNL--LTEAH-----KALFENK----- 478
Db 573 VTSETNWKYEFKDLPRKDEGKKIETVTEHDVHYKDYTTDINGTTITNKYTPGETSATVTKN 632
QY 479 ---GRNSDFQALDKLERL--NDESTNKEKLVDDLFLAPITHPERLGPNSQIEYTED 533
Db 633 WDDNNNODGKRPTETIKVELLYQDGKATGKTALINESNNWTHWTGLDEKAK--GQOVKYTVE 691
QY 534 EVRIAQLADKYTTSQGI--FDEHD-----ISDEGDAYVTPHMGSHWIGKDS----- 580
Db 692 EL-----TKVGYTTHVDNNDMGNLIVTNKYTPETTSISGEKVDKDNQDGKRP 742
QY 581 -----LSDKEKVAQAATYTKKGLPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRL 634
Db 743 KVSNNLLADGEKVKTLDTSE-----TNWKYEFKDLPKYD-----EGKKIETVTE 788
QY 635 PYMVEHTVEVKNGLI-----IPKDHYN-----TKFAWFD----- 667
Db 789 DHVKDYTTDI--NGTTITNKYTPGETSATVTKNWDNNNODGKRPTEIKVELYQDGKATGK 847
QY 668 -----HTY-----KAPN--GYTLEDLFATIKYVEHPDERPHSNDGWN----- 704
Db 848 TAILNESNNWTHWTGLDEKAKGQOVKYTVEEL--TKVGYTTHVD-----NNDMGNLIVT 901
QY 705 -----ASEHVLGKKDHSED--PNK--NFKADEEPEVEETPAPE-----VP 740
Db 902 NKYTPTTTSISGEKVDKDNQDGKRPKEKSVNLLANGKVKTLDTSETNWKYEFKDL 961
QY 741 QV-ETEKVEQLKEAEVLLAKYVDSLIKANAT-----ETLAGLRNNLLTQIMDNNS 790
Db 962 KYDEGKRIETVTEHD-----VKDYTTDINGTTITNKYTPGETSATVTKNMD-----DNNN 1012
QY 791 IMAEAEKLALLKGSNPPSSVSKE 813
Db 1013 -----QDGKRPTEIKVE 1024

RESULT 12
US-08-015-973-1
; Sequence 1, Application US/08015973
; Patent No. 5604094
; GENERAL INFORMATION:
; APPLICANT: Schlessinger, Joseph
; TITLE OF INVENTION: A NOVEL RECEPTOR-TYPE PHOSPHOTYROSINE
; TITLE OF INVENTION: PHOSPHATASE-BETA
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PENNIE & EDMONDS
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/015,973
; FILING DATE: 10-FEB-1993
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Mistrock, S. Leslie
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7683-021
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212)790-9090
; TELEFAX: (212)869-8864/9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 1:

```

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; SEQUENCE CHARACTERISTICS:
; LENGTH: 2308 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-015-973-1

```

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Query Match 3.2%; Score 135; DB 1; Length 2308;
Best Local Similarity 19.2%; Pred. No. 0.4;
Matches 169; Conservative 123; Mismatches 276; Indels 310; Gaps 44;

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```

QY 71 IKITDQGYVTSBGDHYHYNGKVPYDAIISEELMKDPNKKLDEDIVNEVKGGYIKVD 130
Db 954 VGVTYQGSLEFSGPSHI-----PIPKSLITPTASLLOPTHALSG-----D 993
QY 131 GKYYVYLKDAHADNVRTKEINRQKQHSQHREGTTPRNDGAVAL-----ARSQRYT 184
Db 994 GEW-----SGASSDS-----EFLLPDTGLTALNISPVSVAEFTYT 1030
QY 185 T---DDGYIFNASDIIEDTGDAYIVPHGDHYH-----IPK-----NELSASELAAE 229
Db 1031 TSVFEGDNKALSKSEIILYGNTELEQIPSFENEMYPESESTVMPNMYDNVKNKLNASLOETSV 1090
QY 230 AFLSGRG-----NLSNRTYR--KQNSNTS-----RTNWVP 259
Db 1091 SISSTKGMFPGSLAHTTTRKVEDHEISQVPENNFSVQPTHVTSQASGDTSLKPVLSANSEP 1150
QY 260 SVSNPQGT-----NTNTSNNSTNSQAS--QSDNIDSLKQLYKLPLSQRYVES 306
Db 1151 ASSDPASEMSPSTQLLFYETSASFTEVLLQPSFQASDVDTLLKTV--LPA---VPS 1204
QY 307 DGLVEDPAQ-----ITSRTARGVAVPHGDHYHFIPYSQMSLEERARIIPRY 355
Db 1205 DPLIVETPKVDKISSIMLHLIVSNSASSEMLHSTVPVEFVSPSHMSASLQGLTISY 1264
QY 356 RSNHWVPDSRPEQRPQPTPEPSPGPAPNPKIDSNSSLVSQLVRKVGEGYVFEKGIS 415
Db 1265 ASEKYEPLVKSESHQVVP-----SLYSNDELFOQTANLEINQAH--PPKG-- 1308
QY 416 RYVEAKDLPS--ETVKNLESKLSQESVSHTLTAKKENVAPR-----DQEFYDKAY 464
Db 1309 RHVEATPVLSIDEPLNTLNLKLIHSDET--LTSTKSSVGVKVFAGIPTVASDPTFVSTDH 1365
QY 465 NL-LTEAH-----KALFENK----- 479
Db 1366 SVPIGNHVAITAVSPHRDGSVTSTKLLFPKATSELSHSAKSDAGLVGCGEDGDTDDG 1425
QY 480 -----RNSDQALDKLERLNDSTNKEKLVDDLFLAPITHPERLGPNSQIEY--- 530
Db 1426 DDDDDDRGSDGLSIHKCMS--CSSYRESQEKVMND-----SDTHENSIMQNNPISYLS 1478
QY 531 --TEDEVRIAQLADKYTT-----SDGYIFDEHDI-----ISDE 561
Db 1479 ENSEEDNRVTSVSSDSQGTGMDRSPGKSPSANGLSQKHNDGK--EENDIQGSALLPLSPE 1536
QY 562 GDAYVTPHMGSHWIGK--DSLSDKEKVA--AQAYTKEK--GIL-----PPS 602
Db 1537 SKAWAVLTSDEESGSGQGTSDSLNENETSTDFSFADTNEKDADGILACDSEITPGFPQS 1596
QY 603 PDADV-----KANPTGDSAAAIYNRVKEGR--IPLVRLPYMVEHTVEYKN 646
Db 1597 PTSSVTSENSEVEFHVSEAEASNSHESRIGLAEGLESEKKAVIPLVYSALLTFCVLVLY 1656
QY 647 GNLIIPHK---DHYHNKFAWFDHTY-----KAPNGYTLLEDLFA--TIKYVEHPDE 694
Db 1657 GILTYWRKCFQTAHF-----YLEDSTSPRVISTPPTPIFIPISDVGAIPKHPKHVAD 1710
QY 695 RPHSNDGWNASEHV-----LG---KKDHSDDPNKN 722
Db 1711 L-HASSGFTEEFEEVQCTVLDLGTADSSNHPDNKHN 1747

```

```

RESULT 13
US-08-448-164-1
; Sequence 1, Application US/08448164
; Patent No. 5925536
; GENERAL INFORMATION:
; APPLICANT: Schlessinger, Joseph
; TITLE OF INVENTION: A NOVEL RECEPTOR-TYPE PHOSPHOTYROSINE
; TITLE OF INVENTION: PHOSPHATASE-BETA
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PENNIE & EDMONDS
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentln Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/448,164
; FILING DATE: 24-MAY-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/015,973
; FILING DATE: 10-FEB-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Mistrock, S. Leslie
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7683-021
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (212)790-9090
; TELEFAX: (212)869-8864/9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 2308 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-448-164-1

```

Query Match 3.2%; Score 135; DB 2; Length 2308;
 Best Local Similarity 19.2%; Pred. No. 0.4;
 Matches 169; Conservative 123; Mismatches 276; Indels 310; Gaps 44;

```

QY 71 IKITDGYVTSHGDHYHYNGKVPYDAIISELLMKDPNYKLKDEDIVNEVKGVIKVD 130
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 954 VGVTYGSLFSGPSHI-----PIPKSSLITPTASLQPTHALSG-----D 993
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 131 GKYYVYLKDAHADNVRTKEEINROKQEHSHQREGTTPRNDGAVAL-----ARSQGRYT 184
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 994 GEW-----SGASSDS-----EFLLPDTGDLTALNISSPVSAEFTYT 1030
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 185 T----DDGYTFNASDIIEDTDAIVPHGDHYHY-----IPK-----NELSASELAAAE 229
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1031 TSVFGDDNKALSKSEIIYGNETELQIPSFENMVPSESTVPMYDNVKNLNASLQETSV 1090
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 230 AFLSGRG-----NLNSRTYR-RQNSDNTS-----RTNWVP 259
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1091 SISSTKGMFPGSLAHTTKVFDEHLSQVPENNF SVQPTHTVSQASGDTSLKPVLSANSEP 1150
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 260 SVSNPGTT-----NTNTSNNSNTNSQAS-QSNDIDSLKLQLYKLPLSQRHVES 306
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1151 ASSDPASSEMLSPSTQLLFYETSASFSTEVLLOPSFOASDVDTLLKTV--LPA-----VPS 1204
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 307 DGLVFDPAQ-----ITSRTARGVAVPHGDHYHFIPTYSQMSLEERIIARIIPLYR 355
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1205 DPILVETPKVDKISITMLHLIVSNSASSEMMLHSTSVPVFVDVSPFTSHMHSASLQGLTISY 1264
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

```

```

QY 356 RSNHWVPDSRPEQSPQPTPEPSPGDPAPNLIKIDSNSSLVSQLVRKVGEGYFEKGIS 415
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1265 ASEKYEPLVLSKSSSHQVVP-----SLYSNDELLEQTANLEINQAH--PPKG-- 1308
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 416 RYVFAKDLPS--ETVKNLESKLSKQESVSHLTAKKENAVR-----DQEFFYDKAY 464
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1309 RHVFATPVLSIDEPLNLIKLIHSDET--LTSTKSSYGVKVFAGIPTVASDTFVSTDH 1365
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 465 NL-LTEAH-----KALFENKG----- 479
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1366 SVPIGNHVAITAVSPHRDGSVSTKLFLPSPKATSELSHSAKSDAGLVGGEGDPTDDG 1425
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 480 -----RNSDFQALDKLLERLNDESTNKELVDDLAFAPLTPHRLGKPNSTLEY-- 530
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1426 DDDDDRGSDGLSIHKCMS-CSSYRESQEKVMD-----SDPHENSLMDQNNPTISYLS 1478
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 531 --TEDEVRIAQLADKTYT-----SDGYTFDEHDI-----ISDE 561
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1479 ENSEEDNRVTSSSDSGTGMDRSPGKSPSANGLSQKHNDGK--EENDIQTSALLPLSPE 1536
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 562 GDAYVTPHMGHSHWICK--DSLSDKEKVA--AQAYTKEK--GIL-----PPS 602
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1537 SKAMAVLTSDESGSGGQTSDSLNETSTPDSFADTNEKDADGILAGDSEITPGFPQS 1596
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 603 PDADV-----KANPTGDSAAAIYNRVKGK--IPVRLPYVEHTVEYKN 646
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1597 PTTSSYSENSEVFHVSEAEASNSHESRIGLAEGLESEKKAIVPLVTSALLTFCILVVLV 1656
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 647 GNLIIPHK---DHYHNIRKAFEDDHTY-----KAPNGYTLDELFA-TIKYVEHPDE 694
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1657 GILTYWRKCFQTAHF-----YLEDSTSPRVISTPTPTPIFISDDVGAIPKHPKHAVD 1710
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY 695 RPHSNDGNGNASEHV-----LG-----KKHSEDPNKN 722
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB 1711 L-HASSGFTFEFEVQSCVTVDIGITADSSNHPDNKHKN 1747
; : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :

```

```

RESULT 14
US-08-081-929-2
; Sequence 2, Application US/08081929
; Patent No. 6160090
; GENERAL INFORMATION:
; APPLICANT: Schlessinger, Joseph
; APPLICANT: Barnea, Gilad
; APPLICANT: Grunet, Martin H.
; APPLICANT: Margolis, Richard U.
; TITLE OF INVENTION: A NEW CLASS OF RPTases: THEIR
; TITLE OF INVENTION: STRUCTURAL DOMAINS AND LIGANDS
; NUMBER OF SEQUENCES: 13
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PENNIE & EDMONDS
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10036
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentln Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/081,929
; FILING DATE: 23-JUN-1993
; CLASSIFICATION: 514
; ATTORNEY/AGENT INFORMATION:
; NAME: Coruzzi, Laura A.
; REGISTRATION NUMBER: 30742
; REFERENCE/DOCKET NUMBER: 7683-041-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212 790-9090
; TELEFAX: 212 869-8864/9741
; TELEX: 66141 PENNIE

```

; INFORMATION FOR SEQ ID NO: 2:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 2308 amino acids
 ; TYPE: amino acid
 ; STRANDEDNESS: single
 ; TOPOLOGY: unknown
 ; MOLECULE TYPE: protein
 ; US-08-081-929-2

Query Match 3.2%; Score 135; DB 4; Length 2308;
 Best Local Similarity 19.2%; Pred. No. 0.4;
 Matches 169; Conservative 123; Mismatches 276; Indels 310; Gaps 44;

QY 71 IKITDQGYVTSKDDHYHYNGKVPYDAIISELLMKDPNKLKDEDIYNEVKGKGVYKVD 130
 Db 954 VGVYQGLSPGSPSHI-----PIPKSLITPTASLQPTHALSG-----D 993
 QY 131 GKYYVYLKDAHADNVRTKEEINRQKQEHSHQREGTIPRNDCAVAL-----ARSQGRYT 184
 Db 994 GEM-----SGASSDS-----EFLPDTDLTALNISPVSVAEFTYT 1030
 QY 185 T-----DGYTFNASDIETDGDYIVPHGDHYH-----IPK-----NEISASELAAAE 229
 Db 1031 TSVFGDDNKALSKSEIYGNETELQIPSFENMVPSESTVPMNMYDNVKNLASLQETSV 1090
 QY 230 AFLSGRG-----NLSNSRTYR-RQNSDNTS-----RTNWVP 259
 Db 1091 STSTKGMFPGLAHTTTKVEFDEHISQVPENNFVQPTHTVSQASGDTSLKPLSANSEP 1150
 QY 260 SVSNPGTT-----NTNTSNTNSQAS-QSNDIDSLKQLYKPLSORHVES 306
 Db 1151 ASSDPASSEMLSPSTOLLFETYSASFSTEVLQPSFQASDVTILKTV--LPA---VPS 1204
 QY 307 DGLVDPDAQ-----ITSRTARGVAVPHGDHYHFIPIQSMSELEERARIIPRY 355
 Db 1205 DPILVETPKVDKISTMLHLIVSNSASENNLHSTSVPEFVSPTSHMHSASLQGLTISY 1264
 QY 356 RSNHWVPDSRPEQSPQTPERPSPQAPAPNLKIDSNSSLYSOLVRKVGEGYVEEKGIS 415
 Db 1265 ASEKEPVLKSESSHQVVP-----SLYSNDELFOQANLEINQAH--PPKG-- 1308
 QY 416 RYVFAKDLPS--ETVKNLESKLSKQESVSHTLTAKKENVAPR-----DOEYDYKAY 464
 Db 1309 RHVFATPVLISIDEPLNTLINKLHSDI--LTSTKSSVTGKVFAGIPTVASDTFVSTDH 1365
 QY 465 NL-LTEAH-----KALFENKG----- 479
 Db 1366 SVPIGNHVAITAVSPHRDGSVTSTKLLFPKATSELSHSAKSDAGLVGGEGDGTDDG 1425
 QY 480 -----RNSDFQALDKLLERLNDESTNKEKLVDDLAFAPITHPERLGPNSQIEY--- 530
 Db 1426 DDDDDRGSDGLSIHKCMS--CSSYRESQEKVMD-----SDTHENSLMDQNNPISYSL 1478
 QY 531 --TEDEVRIAQLADKYTT-----SDGYIFDEHDI-----ISDE 561
 Db 1479 ENSEEDNRVTSSDSQTMDRSPGKSPSANGLSQKHNDGK--EENDIQTGSAALLPLSPE 1536
 QY 562 GDAYVTPHMGHSHWIGK--DSLSDKEKVA--AQAYTKEK--GIL-----PPS 602
 Db 1537 SKAMAVLTSDEESGSGGCTSDSLNENETSIDFSADTNEKDADGILAAADSEITPGFPQS 1596
 QY 603 PDADV-----KANPTGDSAAAIYNRVKGKGR--IPVRLPYMVEHTEVEYN 646
 Db 1597 PTSSVTSENSEVFHVSAEASNSHESRIGLAEGLESEKKAIVPLIVSALTFLICLVLYV 1656
 QY 647 GNLIIPHK-----DHYHNKFAWEDHTY-----KAPNGYTLDELFA-TIKYVEHPDE 694
 Db 1657 GILYWRKCFQTAHF-----YLEDSTSPRVISTPTPIFPISDDVGAIPIKHPKHVAD 1710
 QY 695 RPHSNDGNGNASEHV-----LG-----KKDHSDEPNKN 722
 Db 1711 L-HASSGTFEEFEVOSCTVDLGTADSSNHPDNKHKN 1747

RESULT 15
 5268270-2
 ; Patent No. 5268270
 ; APPLICANT: Meyer, Thomas F.; Halter, Roman; Pohlnier, Johannes
 ; TITLE OF INVENTION: PROCESS FOR PRODUCING PROTEINS USING GRAM
 ; NEGATIVE HOST CELLS
 ; NUMBER OF SEQUENCES: 6
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/07/171,872
 ; FILING DATE: 01-JUL-1987
 ; SEQ ID NO: 2:
 ; LENGTH: 1507
 5268270-2

Query Match 3.1%; Score 133.5; DB 6; Length 1507;
 Best Local Similarity 18.1%; Pred. No. 0.26;
 Matches 183; Conservative 125; Mismatches 305; Indels 399; Gaps 53;

QY 73 ITDQGYVTSHG-----DHYHYNGKVPYDAIISELLMKDPNKLKDEDIYNEVKGK 124
 Db 523 ITNPNLSVHSTQNDYDEDDYSYRRPRRPIQ--GKDLYYKNRY----- 566
 QY 125 YVIVKVDKYYVYLKDAHADN-----VRTKEEINRQKQEHSHQHR-----EGG-----TP 168
 Db 567 YALKSGGRLNAPENGVNAENNDWIFMGYTOEEARKNAMNKNRRIGDEGGFFDEENGK 626
 QY 169 RNDGAVAL-----ARSQGRYTTDDGYTFNASDIETDGDYI-----VPHGDHY----- 212
 Db 627 GHNGALNLFNGKSAQNRFLTGTGANLNGK-ISTQGANVLLSGRPTPHARDEVNKKSSARK 685
 QY 213 --HYIPKNEL-----SASELAA--AEAFLSGRG-----NLSNSRTYR 245
 Db 686 DAHFSKNNEVVEEDWINRTFKAEIAVNQASFSFGSNVDDITANITATDNKAVNLGYK 745
 QY 246 RQNSDNTS-RTNWVPSVS-NEGTTN-----TNTSNTNSQAS----- 282
 Db 746 --NGDEVCRSDYTGYYTCTGNLSDKALNSFDYATKINGNVNLQNAALVLGKALMGK 803
 QY 283 --QSNDIDSLK-----QLYKPLSQRYH----- 304
 Db 804 IQGQNSRVSINQHSKWLHTGDSQVHNLSDASHIHLNNASDAQSANKYHTIKINHLSCN 863
 QY 305 -----ESDGL-VFDDPAQITSRARGVA 325
 Db 864 GHFHYLTDLAKNLGKRYLVKEASAGHYQLHVQNKTEGPNOEGLDLFDASSVQDRSLFVS 923
 QY 326 VPHGDHYHFIPIYSQMS--ELEERIRITPLRYSNHWVPDSRPEQSPQPT----- 374
 Db 924 LAN-----HYVDIGALRYTTIKTENGITRILY-----NPYAGNGRPVKPAPSPAANTASQAQ 973
 QY 375 -----PE-----PSPGPQAPAPNLKIDSNSSLY-----SOLV 400
 Db 974 KATQTDGAQIAKPPQNTIVAPPSQANQAEELRQAKAEQYKROQAEEAEKVAERQKDEEAK 1033
 QY 401 RKVGE-GYVEEEKISRYVFAKDLPSSETVKNLESKLSKQESVSHTLTAK-----KENVAP 454
 Db 1034 RKAELIARQOEARKAELAAKQAEAEERKARELARQAEAEASHQANAKPRRRRRRAILP 1093
 QY 455 RD-----QEEYDKAYNLLTEAH 471
 Db 1094 RPPAPVPSLDDYDAKDNSESSIGNLARVPIRMGRRELINDYEEIPLLEDEDEAEERRQAT 1153
 QY 472 KALFENKGRNSDFQALDKLLERLNDESTNKEKLVDDLAFAPITHPERLGPNSQIEYT 531
 Db 1154 Q--PHSKSRNR--RAISS--EPSSDEDASESYSTSD-----KHPQDNTELHEKVEFA 1199
 QY 532 EDEVRIAQ-----LADKYTTSDGYIFDE-----HDIISDEGAVVTPHMGHSHWIGK 579
 Db 1200 GIQPRAAQPRTOAAQADAVSTNTNSALSDAMASTOSILDTG-AVLTTRH-----IAQK 1252

